PRELIMINARY ASSESSMENT

BAYONNE BARREL AND DRUM CO.
154 RAYMOND BLVD.
NEWARK, ESSEX COUNTY, N.J.
EPA ID # NJD009871401

GENERAL INFORMATION AND SITE HISTORY

Bayonne Barrel and Drum Co. is an inactive facility located in an industrial area of Newark, bordered by Route 1 and 9 to the west, the New Jersey Turnpike to the east, and an empty lot previously occupied by the Newark drive-in movie theater to the south. The site covers approximately 15 acres and consists of three main buildings and a large yard area. Most of the site is in Block 5002 Lot 3 (9.3 acres) and is owned by Bayonne Barrel and Drum Co. Block 5002 Lot 14 (5.5 acres) is owned by Frank Langella, principal owner of BBD, and is used as part of the facility for drum storage.

Bayonne Barrel and Drum Co. operated a drum reconditioning facility at the site from the early 1940's until about 1982 when the company filed for bankruptcy. According to NJ Department of State records, Bayonne Barrel and Drum Co. incorporated in 1937 under the name of Export Barrel Co. The name was changed to Bayonne Barrel and Drum Co. in 1942. Property deed records for Essex County indicate a history of site ownership as follows:

Bayonne Barrel and Drum Co.	1945 - present
Colville Bros. Inc.	1933 - 1945
Barbara and Henry Smith	1931 - 1933
B & F Co. Inc.	Prior to 1931

N.J. Department of State records indicate that B & F Co. incorporated in 1931 and dissolved in 1935; Colville Bros. incorporated in 1933 and dissolved in 1945.

Sanborn fire insurance maps show a drum reconditioning facility at the site as early as 1931, owned by B & F Co. Inc. The buildings present at the site were labeled as "tenant occupied" and included crate and drum storage, and drum cleaning areas. A review of aerial photography was conducted in 1986 by Louis Berger and Associates, a consultant for the N.J. Turnpike Authority which is proposing to construct a right-of-way over a portion of the BBD property. The following areas of potential environmental concern were noted:

1947 - landfill activity in the southern portion of the site.
- lagoon near eastern site boundary.
- drainage channels connecting lagoon to Passaic River.
- large open storage area containing several thousand drums.

1959 - N.J. Turnpike construction near eastern site boundary.
- liquid filled trench near old lagoon location.
- small waste disposal area in northeast corner of site.

1985 - dark ground staining along eastern site boundary.
- large mound of dark material (ash) near western edge of site.
- lagoon and waste disposal areas no longer evident.

Currently, the site contains several buildings, an incinerator, above-ground and underground storage tanks, an ash/sludge pile and an empty drum storage area (30,000 drums estimated). Since BBD filed for bankruptcy a portion of the site has been leased and used to repair and maintain trailers and cargo containers. A one-acre parcel near the northern boundary is reportedly leased to Nationwide Tire and contains a pile of used automobile tires.

SITE OPERATIONS OF CONCERN

Operations at the BBD facility involved both closed head and open head drums. The closed head system employed chains and caustic solution to remove residues in the drums. Spent solution from the process drained through an oil/water separator trench into a 5,000-gallon underground tank, and then was pumped into a 60,000-gallon above-ground holding/settling tank prior to being discharged to the sewer under a permit with the Passaic Valley Sewage Commission. Open head drums were placed on a conveyer and processed through the incinerator with residue from the process collected in two subsurface holding/settling tanks, and then placed into a dumpster/trailer prior to being manifested off-site.

Past inspections by NJDEP representatives during 1982 and 1984 reported the following items:

- 40,000 pounds per month of incinerator ash and sludge generated at the facility, most of which was being sent to S & W Waste in Kearny, N.J.; a lesser amount was disposed of at GROWS Landfill in Morrisville, Pa.

- wastewater overflow from the 5,000-gallon tank was observed entering a storm sewer as a result of a frozen pump and broken lines to the tank; the storm sewer reportedly flows to a small creek leading to the Passaic River.

- oil staining on ground surface near the above-ground tank.

- ash/sludge material on ground surface around incinerator.

- ash/sludge pile (220' x 50' x 4') on ground in rear of property, uncovered with no containment or runoff control.

- approximately 30,000 drums stacked on ground in rear of property; a random survey indicated about half of the drums contained some amount of material.

The ash pile and rows of drums (30,000 estimated) still remain in the rear of the property. The plastic cover over the ash pile is in poor condition , leaving the pile partially uncovered. In addition, a RCRA enforcement inspection conducted by EPA during June 1988 noted a large ash pile and 100-150 drums containing ash and aqueous materials in a building near the incinerator. There is also an ash pile in the courtyard between the incinerator and furnace room building.

A NJPDES-DGW permit (NJ 0064068) was issued to Bayonne Barrel and Drum Co. and several adjacent property owners in order to monitor groundwater in the vicinity of an old landfill area which was reportedly active prior to 1947, known as the 15E sanitary landfill. The landfill covers approximately 45

acres and received construction and demolition debris. It is located in the area between Foundry Street and Raymond Blvd. and encompassed the southern portion of the BBD site and the former drive-in movie theater to the south. The permit was issued February 15, 1988 and includes 13 groundwater monitoring wells.

GROUNDWATER ROUTE

A soil and groundwater characterization report for the BBD site was submitted by Dan Raviv Associates in July 1986. The report contains soil and groundwater sampling data and information on site geology and groundwater conditions. Soil and well boring data indicate that the site is underlain by the following materials:

- black coal-cinder fill material: 0-10 feet
- medium to coarse grained sand: 10-40 feet
- dark red-brown coarse silt: 40-50 feet
- dark red shale (Brunswick Formation): below 50 feet

Field investigations by Dan Raviv Associates included the installation of four monitoring wells (20-50 feet deep) and one well point (10 feet deep). The monitoring wells included two background locations, one near the ash pile, and one near the oil storage tanks the northeast portion of the site. Groundwater samples were analyzed for volatile organics, petroleum hydrocarbons, and PCB's. The monitoring well near the above-ground tank (downgradient location) was also analyzed for priority pollutants. Depth to groundwater is 3-4 feet and the direction of flow is toward the east.

Sampling data indicate that groundwater beneath the site is contaminated with volatile organics, petroleum hydrocarbons, and PCB's at concentrations significantly above background. The monitoring well near the ash pile showed low level contamination with benzene (28 ppb), napthalene (14 ppb), and di-n-butylphthalate (28 ppb). Groundwater in the northeast portion of the site near the oil storage tanks was found to be contaminated with PCB's (53 ppb), petroleum hydrocarbons (2,000 ppm), toluene (150 ppb), chlorobenzene (67 ppb), ethylbenzene (1,060 ppb), dichlorobenzenes (76 ppb), and various non-priority pollutant organics including cyclohexane (60 ppb), cycloheptane (100 ppb), isopropylbenzene (90 ppb), n-propylbenzene (150 ppb), ethyl toluene isomers (550 ppb), trimethylbenzene isomers (1400 ppb), and xylene isomers (2000 ppb).

A soil and groundwater study was also completed by Louis Berger Associates in 1986 in order to characterize contamination in the proposed NJ Turnpike right-of-way adjacent to the eastern site boundary. Two additional monitoring wells were installed in this area and the results showed contamination with volatile organics (up to 98 ppb), polynuclear aromatic hydrocarbons (34 ppb), phenol (877 ppb), and 2,4-dimethylphenol (860 ppb).

NJDEP water supply overlay and water allocation maps show no major public supply wells within a three mile radius of the site. Groundwater in the area is not used for drinking, however there are a number of industrial supply wells on the order of 200-700 feet deep which draw from the Brunswick Formation. Downward migration of contaminants at the BBD site could have an adverse impact on water quality of the Brunswick Formation.

SURFACE WATER ROUTE

The nearest downslope surface water is the Passaic River about 2000 feet to

the east, which empties into the Newark Bay roughly one mile south of the site. Storm sewers at the site reportedly lead to Harrison's Creek and the Passaic River. A NJDEP inspection in 1982 reported wastewater flowing into a storm sewer as a result of equipment malfunctions at the facility. Sample of the wastewater discharge to the storm sewer showed contamination with benzene, toluene, xylene, ethylbenzene, methylene chloride, and 1,1,1-trichloroethane. The Passaic River is used for industrial purposes and occasional recreational boating.

AIR ROUTE

There are no records of air sampling conducted at the site. The facility had 12 air pollution control permits during its operation (plant ID #05103) that included drum cleaning units, paint spray booths and ovens, drum incinerator, baghouses, and a deisel fuel and gasoline tank.

During 1978 the facility was cited for opacity violations which resulted from drums not being emptied properly prior to incineration. Hydrogen sulfide type odors and other strong odors were noted by Louis Berger Associates during work along the eastern portion of the site, and by road workers during construction along Route 1 and 9. The potential for air contamination exists due to the documented volatile organic contamination at the site, however there are other sources of air pollution in the area from adjacent highways and the Newark Airport located about three miles to the south.

SOIL

Field work completed by Dan Raviv Associates included soil samples from 19 soil borings (up to 15 feet deep) and five well borings (up to 42 feet deep). A total of 71 soil samples were analyzed at depths ranging from 0-22 feet for a variety of parameters including total petroleum hydrocarbons, volatile organics, PCB's, and priority pollutant scan. One sample was analyzed for dioxin. The highest levels of soil contamination detected at the site are listed as follows:

total priority volatile organics -	22,553 ppb
total non-priority volatile organics -	66,035 ppb
total petroleum hydrocarbons -	173,000 ppm
PCB's	320 ppm
arsenic	390 ppm
cadmium	1300 ppm
chromium	3400 ppm
copper	15,500 ppm
lead	8,400 ppm
mercury	13.0 ppm
zinc	5040 ppm

Petroleum hydrocarbon concentrations above 100 ppm were detected throughout the site at depths up to ten feet. Volatile organic and PCB contamination was detected in the oil storage tanks area, drum storage area, and ash pile area. The highest metal contamination was found near the ash pile and drum storage areas in the rear of the property.

DIRECT CONTACT

No reported incidents of direct contact were noted in Department files. The potential for direct contact is low since the facility is inactive and surrounded by a fence. The nearest residential area is about one-half mile

to the west. There is a potential for exposure by highway construction workers next to the site and the few security and maintenance staff at the facility. Past BBD employees may have been exposed to hazardous materials due to sloppy housekeeping and waste handling practices and contamination which has been documented throughout the site.

FIRE AND EXPLOSION

NJDEP Enforcement files contain two reports of fires at the site, however these did not directly involve hazardous substances or wastes present at the facility. A brush fire in 1985 encompassed the portion of the site containing the automobile tire pile, but did not spread to the rows of drums in the rear of the property. A smaller brush fire also occurred at the site in 1986. Most of the drums stacked in the rear of the property (30,000 estimated) are reported to be empty, however there may be volatile or flammable residues present in some of the drums. EPA inspectors noted 100-150 drums containing ash residues and aqueous materials in a building near the incinerator area during a recent inspection and sampling episode. Samples collected from an ash pile inside the building and an aqueous drum sample showed volatile organic contamination, representing a potential fire or explosion hazard.

ADDITIONAL CONSIDERATIONS

The potential for damage to flora and fauna is low due to the urban location of the site and apparent lack of plant and animal life. Potential migration of contaminants from the site via surface runoff and storm sewers could have an adverse impact on Passaic River biota. The potential for damage to offsite property exists through migration of contaminants in groundwater and surface runoff. Contamination was found in the proposed N.J. Turnpike right-of-way adjacent to the eastern site boundary.

EPA RCRA ENFORCEMENT INSPECTION

A RCRA sampling inspection was conducted at Bayonne Barrel and Drum on June 2, 1988 by EPA Region II personnel. The facility was found to be in violation of RCRA and TSCA violations based upon sampling results and a visual inspection of the site. Analytical data showed that several waste ash piles present at the site are considered a hazardous waste due to levels of cadmium above RCRA criteria limits for EP Toxicity. The ash pile in the rear of the property showed PCB contamination of 115 ppm and 293 ppm for arochlor 1248 and 1252, respectively. Approximately 100-150 drums were observed in the drum and ash storage room which were not labeled as a hazardous waste and apparently stored for greater than 90 days.

ENFORCEMENT ACTIONS

An EPA Consent Agreement and Order issued in 1984 cited Bayonne Barrel and Drum Co. for operation of a hazardous waste facility and storage of hazardous wastes without a hazardous waste permit. The order required the facility to implement a soil sampling program and to remove hazardous waste piles present at the site, liquid and sludge from the oil storage tanks, and areas of contaminated soil identified on the property. The facility was also required to submit a closure plan. A soil and groundwater characterization study was completed in 1986, however BBD has not complied with the remaining terms of the consent agreement.

The U.S. Justice Department has filed a suit against the company and its president, Frank Langella, for various violations of RCRA and failure to comply with the terms of the EPA consent agreement. The case is currently

in litigation. An attorney for the U.S. Justice Department has indicated that the facility may be sold to a third party which may be willing to conduct the cleanup, in which case the site would be subject to ECRA regulations. As previously mentioned, BBD filed for bankruptcy in 1982 and has reportedly defaulted on a bank loan, thus the bank (First National State Bank) could foreclose and take title to the property but has apparently not done so because they would be considered a responsible party under CERCLA as owner of the site. Both the EPA and U.S. Justice Department have expressed interest in having the NJDEP involved in reviewing any sampling/cleanup plans which may be developed for the site following litigation.

RECOMMENDATIONS

A high priority is assigned to the site due to the documented soil and groundwater contamination and wastes present at the site including several ash piles, 100-150 drums containing ash residues and aqueous materials, and oil storage tanks. The estimated 30,000 drums stacked in rows in the rear of the property are reportedly empty, however some of the drums may contain small amounts of material.

A Site Inspection Review is recommended in lieu of a sampling episode since analytical data is available. At this time the case should be transferred to the Responsible Party Cleanup Element Bureau of Case Management - State Program for overall case management responsibilities. Any future site investigation/remediation efforts should be consistent with ECRA requirements since there is a strong possibility that the facility may be sold thereby necessitating case transfer to the Industrial Site Evaluation Element.

Submitted by:

Edward Gaven

Edward Gaven, HSMS III
NJDEP Bureau of Planning and Assessment
October 24, 1988

Preliminary Assessment

Bayonne Barrel and Drum Company
154 Raymond Blvd.
Newark, Essex County, New Jersey

EPA ID # NJ D009871401

Hours worked:54 hrs.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: NJ | 02 SITE NUMBER: D009871401

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Bayonne Barrel and Drum Company	154 Raymond Blvd.				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Newark	NJ	07105	Essex		
09 COORDINATES LATITUDE: 40 43 56	LONGITUDE: 74 07 30	Block 5002 Lots 3 and 14, 15 acres			

10 DIRECTIONS TO SITE (Starting from nearest public road)
Route 1 North to Raymond Blvd., exit in Newark; facility is on right-hand side , off exit ramp.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
Bayonne Barrel and Drum Company	154 Raymond Blvd.			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Newark	NJ	07105	( )	
07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)			
Same as above				
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
			( )	

13 TYPE OF OWNERSHIP (Check one)
XX A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) XX B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
XX YES DATE 06 02 88 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)
XX A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☐ A. ACTIVE XX B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1945 (BEGINNING YEAR) 1982 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Violatile organic compounds including benzene, chlorobenzene, ethylbenzene toluene, xylene, styrene; petroleum hydrocarbons; PCB's; metals including cadmium, chromium and lead.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Soil and groundwater is contaminated with volatile organics, petroleum, hydrocarbons and PCB's. Waste ash piles and drums containing hazardous wastes are present at the site; an estimated 30,000 drums are stacked in the rear of the proprty, some may contain harzardous residues.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
XX A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
Michael Ferriola	EPA Surveillance and Monitoring Branch		(201) 321-6776
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER / 08 DATE
Ed Gaven	NJDEP	DHWM/BPA	(609) 292-4320 / 10 24 88 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE: NJ | 02 SITE NUMBER: D009871401

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [X] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS:
- CUBIC YARDS: 1500
- NO. OF DRUMS: 100 - 150

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [ ] B. CORROSIVE
- [X] C. RADIOACTIVE
- [X] D. PERSISTENT
- [X] E. SOLUBLE
- [ ] F. INFECTIOUS
- [X] G. FLAMMABLE
- [ ] H. IGNITABLE
- [X] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
(SLU)	SLUDGE	1,500	cubic yards	ash / sludge pile
(OLW)	OILY WASTE	70,000	gallons	oil and sludge storage tanks
(SOL)	SOLVENTS	unknown		
PSD	PESTICIDES			
(OCC)	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
(MES)	HEAVY METALS	unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	benzene	71-43-2	Groundwater Samples	28	ppb
SOL	chlorobenzene	108-90-7	* Concentration	67	ppb
SOL	ethybenzene	100-41-4	shown are the	1,060	ppb
SOL	toluene	108-88-3	highest levels	150	ppb
SOL	xylene	1330-20-7	detected in	2,000	ppb
SOL	diethyl ether		groundwater	30	ppb
SOL	isoprophyl benzene		samples.	90	ppb
OCC	n-propylbenzene			150	ppb
OCC	di-n-butylphthallate	84-74-2		28	ppb
OCC	napthalene	91-20-3		14	ppb
OCC	cyclohexane	110-82-7		60	ppb
OCC	cycloheptane			100	ppb
OCC	2,4-dimethylphenol	105-67-9		860	ppb
OCC	phenol	108-95-2		877	ppb
	continued				

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Soil and Groundwater charaterization Report- Dan Raviv Associates (Ref. B)

Sampling in Proposed NJ Turnpike Right-of-Way- Louis Berger Associates (Ref. C)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
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- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
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- [ ] L. INCOMPATIBLE
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III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	benzene	71-43-2		265	ppb
SOL	chlorobenzene	108-90-7	Soil Samples	650	ppb
SOL	ethylbenzene	100-41-4		8,000	ppb
SOL	1,1-dichloroethane	75-34-3		1,000	ppb
SOL	1,2-dichloroethylene	25323-30-2	* Concentrations	1,100	ppb
SOL	methylene chloride	75-09-2	shown are the	740	ppb
SOL	1,1,1-trichloroethane	71-55-06	highest levels	850	ppb
SOL	trichloroethylene	79-01-6	detected in soil	830	ppb
SOL	toluene	108-88-3	samples.	14,000	ppb
SOL	xylene	1330-20-7		9,600	ppb
SOL	methyl ethyl ketone	78-93-3		170	ppb
SOL	methyl isobutyl ketone	105-44-2		730	ppb
SOL	styrene	100-42-5		450	ppb
OCC	acenaphthene	83-32-9		19,600	ppb
OCC	anthracene	120-12-7		15,300	ppb
OCC	benzo (a) anthracene	56-55-3		22,000	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Soil and Groundwater Charaterization Report-Dan Raviv Associates (Ref. B)
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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D009871401

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01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
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- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
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III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	benzo(a) pyrene	50-32-8		18,000	ppb
OCC	benzo (b) fluoranthene	207-08-9	Soil Samples	23,000	ppb
OCC	benzo (g,h,i) perylene	191-24-2		4,000	ppb
OCC	bis(2-ethylhexyl)phthallate	117-81-7	* Concentrations	290,000	ppb
OCC	butyl benzyl phthallate	85-68-7	shown are the	30,100	ppb
OCC	chrysene	218-01-9	highest levels	24,400	ppb
OCC	1,4-dichlorobenzene	25321-22-6	detected in soil	11,800	ppb
OCC	diethyl phthallate	84-66-2	samples	11,500	ppb
OCC	dimethyl phthallate	131-11-3		22,000	ppb
OCC	di-n-butyl phthallate	84-74-2		87,900	ppb
OCC	fluoranthene	206-44-0		35,900	ppb
OCC	fluorene	86-73-7		29,300	ppb
OCC	napthalene	91-20-3		191,000	ppb
OCC	phenanthrene	85-01-8		80,800	ppb
OCC	pyrene	129-00-0		56,200	ppb
OCC	1,2,4-trichlorobenzene	120-82-1		24,700	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Soil and Groundwater Charaterization Report- Dan Raviv Associates . (Ref. B)
Sampling in Proposed N.J. Turnpike Right-of-Way - Louis Berger Associates (Ref. C)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- XX A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	arsenic	7440-38-2		390	ppm
MES	cadmium	7440-43-9	Soil Samples	1,300	ppm
MES	chromium	7440-47-3		3,400	ppm
MES	copper	7440-50-8	* Concentrations	15,000	ppm
MES	lead	7439-92-1	shown are the highest	8,400	ppm
MES	mercury	7439-97-6	levels detected in	13.6	ppm
MES	zinc	7440-66-6	soil samples.	5,040	ppm
SOL	ethybenzene	100-41-4	waste ash pile	5,200	ppm
SOL	trichloroethylene	79-01-6	samples	490	ppb
SOL	tetrachloroethylene	127-18-4		1,300	ppb
SOL	toluene	108-88-3		12,000	ppb
SOL	xylene	1330-20-7		4,600	ppb
SOL	styrene	100-42-5		2,500	ppb
OCC	arochlor 1248	12672-29-6		293,970	ppb
OCC	arochlor 1254	11097-69-1		115,400	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

EPA Investigation and Sampling Episode (Ref. A)
Soil and Groundwater Charaterization Report-Dan Raviv Associates (Ref. B)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	benzene	71-43-2	aqueous drum sample	92,000	ppb
SOL	chlorobenzene	108-90-7		78,000	ppb
SOL	ethylbenzene	100-41-4		1,200,000	ppb
SOL	tetrachloroethylene	127-18-4		62,000	ppb
SOL	xylene	108-88-3		10,000,000	ppb
SOL	toluene	1330-20-7		2,400,000	ppb
SOL					
OCC	1,3-dichlorobenzene	25321-22-6		2,610	ppb
OCC	1,4-dichlorobenzene	25321-22-6		34,200	ppb
OCC	1,2-dichlorobenzene	25321-22-6		167,140	ppb
OCC	napthalene	91-20-3		28,380	ppb
OCC	dibenzofuran	132-64-9		567	ppb
OCC	2,4-dinitrotoluene	121-14-2		597	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA Investigation and Sampling Episode (Ref. A)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE: NJ	02 SITE NUMBER: D009871401

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [X] OBSERVED (DATE: July 1986) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Groundwater beneath the site is contaminated with vol atile organics, petroleum hydrocarbons and PCB's.

Ref. B

01 [X] B. SURFACE WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

There is a potential for migration of surface run-off from site into the Passaic River via storm sewers. Samples of a wastewater discharge into a storm sewer at the facility in 1982 showed contamination with violatile organic compounds. Ref. E,S

01 [X] C. CONTAMINATION OF AIR — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Potential exists due to documented volatile organic contamination throughout the site. Strong odors have been noted by highway construction workers adjacent to the site. Ref. B,L

01 [X] D. FIRE EXPLOSIVE CONDITIONS — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

An EPA site inspection/sampling episode in 1988 reported 100-150 drums stored in a building near the incinerator. Drum and ash samples showed volatile organic contamination, representing a potential fire or explosive hazard. Brush fires were reported at the site in 1985 and 1986. Ref. A,N,M

01 [X] E. DIRECT CONTACT — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The potential for direct contact is low since the facility is inactive and surrounded by a fence. The nearest residential area is about ½ mile away,however there is a potential for exposure of highway construction workers along Route 1 and 9 and the N.J. Turnpike. Ref. A,L

01 [X] F. CONTAMINATION OF SOIL — 02 [X] OBSERVED (DATE: July 1986) — [ ] POTENTIAL — [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION

Soil samples show high levels of contamination with volatile organics, petroleum hydrocarbons, PCB's and metals.

Ref. B

01 [ ] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

no potential exists since groundwater in the area is not used for drinking. Downward migration of contaminants could affect the Brunswick formation, which is used for industrial purposes in the Newark area. Ref. B Maps 5 & 7

01 [X] H. WORKER EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Past employees may have been exposed to hazardous substances due to sloppy housekeeping and waste handling practices and documented contamination on-site. Currently, there are a few security and maintenance personnel present at the facility. Ref. A,B

01 [X] I. POPULATION EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE: _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Potential for population exposure is low since the nearest residential area is about ½ mile away. The facility is fenced in, however there is a potential for off-site contamination and population exposure due to urban location.

Ref.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NJ | 02 SITE NUMBER: D009871401

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [X] J. DAMAGE TO FLORA — 02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Potential migration of contaminants via surface run-off and storm sewers may have adverse impact on Passaic River biota.

Ref. S

01 [X] K. DAMAGE TO FAUNA — 02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Potential migration of contaminants via surface run-off and storm sewers may have adverse impact in Passaic River Biota.

Ref. S

01 [XX] L. CONTAMINATION OF FOOD CHAIN — 02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Potential exists due to documented PCB and metal contamination at site.

Ref. B

01 [XX] M. UNSTABLE CONTAINMENT OF WASTES (Spills Runoff Standing liquids Leaking drums) — 02 [ ] OBSERVED (DATE: June 1988) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Ash piles in the rear of the property do not have adequate containment or runoff control.

Ref. A

01 [XX] N. DAMAGE TO OFFSITE PROPERTY — 02 [X] OBSERVED (DATE: July 1986) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Contamination related to past operations at the facility has been detected in the proposed N.J. Turnpike Right-of-Way adjacent to the eastern site boundry.

Ref. C

01 [X] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 [X] OBSERVED (DATE: 2-22-82) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Samples of a wastewater discharge into a storm sewer at the facility in 1982 showed volatile organic contamination. The storm sewer reportedly leads to the Passaic River.

Ref. E, S

01 [XX] P. ILLEGAL/UNAUTHORIZED DUMPING — 02 [ ] OBSERVED (DATE: June 1988) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Ash piles are stored on open ground in the rear of the property. Sampling data indicate that the material is EP toxic for cadmium in violation of RCRA regulations.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

An estimated 30,000 drums are stacked in rows in the rear of the property. The drums are reported to be empty, however some may contain waste residues.

Ref. A,R

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

EPA Inspection and Sampling Episode (Ref.A)
Soil and Groundwater Characterization Report-Dan Raviv Associates (Ref. B)
Sampling in Proposed N.J. Turnpike Right-of-Way -Louis Berger Associates (Ref.C)

V. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Sludge and Liquid Sampling Results-1982 (Ref. E)
NJDEP Incident NOtification Reports (Ref.L,M)
EPA Pollution Report on Fire Incident (Ref. N)
~~NJDEP Site Inspection Memo (Ref. R)~~
NJDEP Hazardous Waste INvestigation Reports (Ref. S)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
X A. NPDES	NJ0064068	2-15-88	2-28-90	inactive 15E sanitary landfill
☐ B. UIC				
X C. AIR	plant ID#05103		expired	
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
X B. PILES	1,500	cubic yards
X C. DRUMS, ABOVE GROUND	100-150	drums
X D. TANK, ABOVE GROUND	65,000	gallons
X E. TANK, BELOW GROUND	5,000	gallons
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- X A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- X E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

- X A. BUILDINGS ON SITE

06 AREA OF SITE

15 (Acres)

07 COMMENTS

01B- Ash pile in rear of property is approximately 225' x 50' x 4'.
01C- Drums located inside building near incinerator area;an estimated 30,00 drums are stacked in rear of property, reportedly empty.
01D- Oil and sludge storage tank.
01E- Wastewater holding/settling tank.
04A and E: Incinerator and oil separator trench no longer active.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE X C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

Ash piles are stored in rear of property on open ground without proper containment or runoff control. Documented soil and groundwater contamination indicates inadequate containment of wastes.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES ☐ NO

02 COMMENTS

Facility is surrounded by a fence to prevent access and is also inactive.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

EPA Inspection and Sampling Episode (Ref. A)
Soil and Groundwater Characterization-Dan Raviv Associates (Ref. B)
NJPDES Permit and Fact Sheet (Ref. J)
NJDEP/BAPC Stack Log Listing (Ref. V)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☒ XX	B. ☐
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☒ X
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 20-25 (mi)

B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☒ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER N/A

03 DISTANCE TO NEAREST DRINKING WATER WELL > 4.0 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
3-4 (ft)	East	50 (ft)	500 gpm (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

Industrial supply wells within 1-2 miles of site are on the order of 200-700 feet deep and draw from the Brunswick foundation.

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☐ NO	COMMENTS	☐ YES ☐ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☒ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Passaic River	☐	2000 ft (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 32,000 NO. OF PERSONS	B. 100,000 NO. OF PERSONS	C. 225,000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 0.50 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE	04 DISTANCE TO NEAREST OFF-SITE BUILDING
numerous	0.10 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site is in an urban industrial area bordered by the N.J. Turnpike and Route 1 and 9. The nearest residential area is located about ½ mile to the west. Population within 3 miles of site includes roughly half of Newark and Jersey City, and most of Harrison.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one) fill material and sand

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec XX C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one) fractured shale and sandstone

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) X C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
50 (ft)	10 (ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
12 (in)	2.5 (in)	1-2 %	North st	0-1 %

09 FLOOD POTENTIAL: SITE IS IN N/A YEAR FLOODPLAIN

10: ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY N/A

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. N/A (mi)	B. N/A (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species): N/A (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL; STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.10 (mi)	B. 0.50 (mi)	C. N/A (mi)	D. N.A (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The ground surface at the site is about 10 feet above MSL and slopes toward the northeast. The site is underlain by approximately 10 feet of fill material, 30-40 feet of sand and salt, and fractured shale bedrock of the Brunswick formation. Depth to groundwater is 3-4 feet and the direction of flow is toward the east.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Soil and Grounwater Characterization Report -Dan Raviv Associates (Ref.A)
USGS Quad Map- Elizabeth Quad (Map 1)
NJDEP Water Supply Overlay map (Map 5)
NJDEP Water Allocation Map (Map 7)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D009871401

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	5 ~~2~~	Gollob Analytical, Berkeley Heights, N.J. ~~ETC Laboratory, A Edison, N.J.~~	available
SURFACE WATER			
WASTE	10	EPA laboratory, Edison, N.J.	available
AIR			
RUNOFF			
SPILL			
SOIL	70 18	Gollob Analytical, Berkeley Heights, n.J. ETC Laboratory, Edison, N.J.	available
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF _____
(Name of organization or individual)

03 MAPS
☐ YES
☐ NO

04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA Inspection and Sampling Episode (Ref. 4)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Bayonne Barrel & Drum Co.		154 Raymond Blvd.	3412	Newark	NJ	07105
Frank Langella		154 Raymond Blvd.		Newark	NJ	07105

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Colville Bros., Inc.						
B & F Co. Inc.						

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Site inactive	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER
Bayonne Barrel & Drum Co.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
154 Raymond Blvd.	3412

05 CITY	06 STATE	07 ZIP CODE
Newark	NJ	07105

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
1945-1982	Frank Langella

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NJ	D009871401

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Bayonne Barrel & Drum, Co.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
154 Raymond Blvd.	3412

05 CITY	06 STATE	07 ZIP CODE
Newark	NJ	07105

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D009871401

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION [X] YES [ ] NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

An EPA Consent Agreement issued in 1984 cited Bayonne Barrel and Drum Company, for operation of a hazardous waste facility and storage of hazardous wastes without a hazardous waste permit, in violation of RCRA regulations.

The facility was required to conduct an investigation of contamination and submit a closure plan for the facility.

The US Justice Department has filed a suit against the Company and it s president, Frank Langella, for RCRA violations and failure to comply with the terms of the Consent Agreement signed with EPA. The case is presently in litigation.

III. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

EPA Consent Order (Ref Q)

EPA FORM 2070-13 (7-81)

BAYONNE BARREL AND DRUM CO.
REFERENCES

MAPS

1. USGS QUAD MAP: ELIZABETH AND JERSEY CITY QUADS
2. SITE MAP: LOUIS BERGER & ASSOCIATES
3. CITY OF NEWARK TAX MAP
4. NJ ATLAS BASE MAP
5. NJDEP WATER SUPPLY OVERLAY MAP #26
6. NJDEP GEOLOGIC OVERLAY MAP AND WELL INFORMATION
7. NJDEP/DWR WATER ALLOCATION RADIUS MAP

ATTACHMENTS

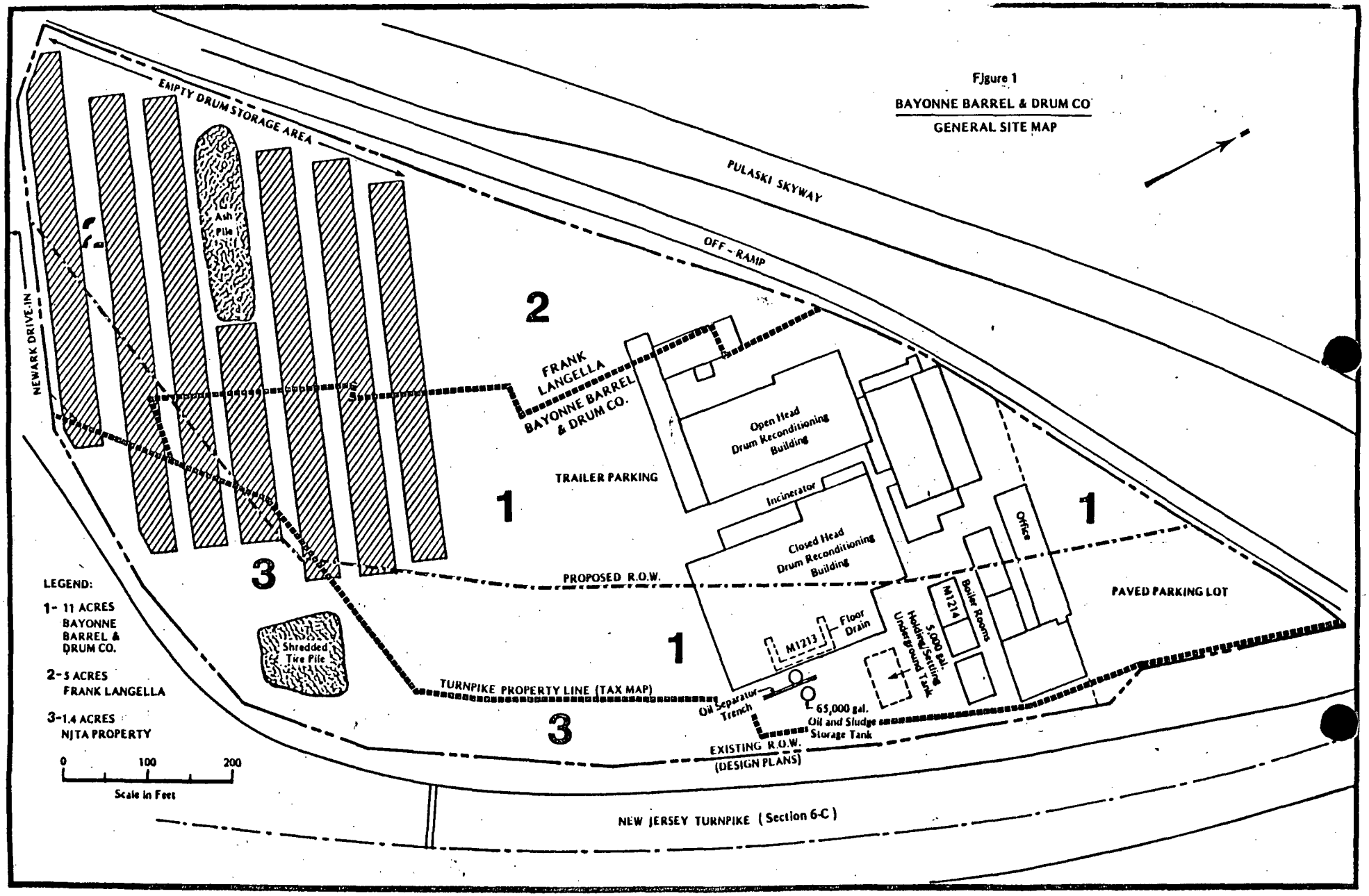
A.	EPA RCRA ENFORCEMENT INSPECTION AND SAMPLING	6/2/88
B.	SOIL AND GROUND WATER CHARACTERIZATION - DAN RAVIV	7/86
C.	PRELIMINARY INVESTIGATION AND SAMPLING IN PROPOSED N.J. TURNPIKE RIGHT-OF-WAY - LOUIS BERGER ASSOCIATES.	12/86
D.	EPA RCRA INSPECTION AND SAMPLING EPISODE	5/16/84
E.	SLUDGE AND LIQUID SAMPLING RESULTS - STABLEX - REUTTER INC.	2/24/82 5/25/82
F.	BAYONNE BARREL & DRUM WASTE ANALYSES - G.R.O.W.S. INC.	1978/1980
G.	HISTORICAL SURVEY OF NJ TURNPIKE PROPOSED RIGHT-OF-WAY - LOUIS BERGER ASSOCIATES.	12/86
H.	MEMO: USEPA DEPARTMENT OF HEALTH AND HUMAN SERVICES.	2/6/87
I.	LETTER: U.S. DEPARTMENT OF JUSTICE INFORMATION ON LITIGATION.	9/21/88
J.	NJPDES PERMIT AND FACT SHEET FOR 15E SANITARY LF	2/11/88
K.	NJDEP INVESTIGATION OF CONTAMINATED SOILS NEAR BAYONNE BARREL.	7/6/88
L.	NJDEP INCIDENT NOTIFICATION REPORT ON LIQUID WASTE AT ROUTE 1 & 9 CONSTRUCTION SITE.	6/11/87
M.	NJDEP INCIDENT NOTIFICATION REPORT ON BRUSH FIRE	9/13/86
N.	EPA POLLUTION REPORT ON FIRE INCIDENT	4/22/85
O.	EPA REVIEW OF WORK PLAN AND CONSENT ORDER	7/26/85
P.	NJDEP/DHSM REVIEW OF WORK PLAN	4/9/85

Q.	EPA CONSENT ORDER	9/3/84
R.	NJDEP SITE INSPECTION MEMO	8/15/84
S.	NJDEP HAZARDOUS WASTE INVESTIGATIONS	2/22/82 5/17/82
T.	NJDEP RCRA GENERATOR INSPECTION	1/27/82
U.	ANONYMOUS COMPLAINT TO NJDEP	1/11/82
V.	NJDEP/BAPC STACK LOG LISTING AND LEGAL ACTION LOG	1982
W.	EPA INFORMATION ON AIR RELEASES	5/10/78
X.	NJDEP/ORS REGISTERED AGENT INFORMATION	10/11/88
Y.	NJDEP REPORT OF PHONE CALL - PROPERTY VALUE INFORMATION.	10/5/88
Z.	NJ DEPARTMENT OF STATE CORPORATE INFORMATION	9/30/88
AA.	PROPERTY OWNERSHIP INFORMATION - NEWARK HALL OF RECORDS.	9/28/88
BB.	SANBORN FIRE INSURANCE MAPS	1931, 1951
CC.	MEMO: BPA WINDSHIELD SURVEY	9/28/88

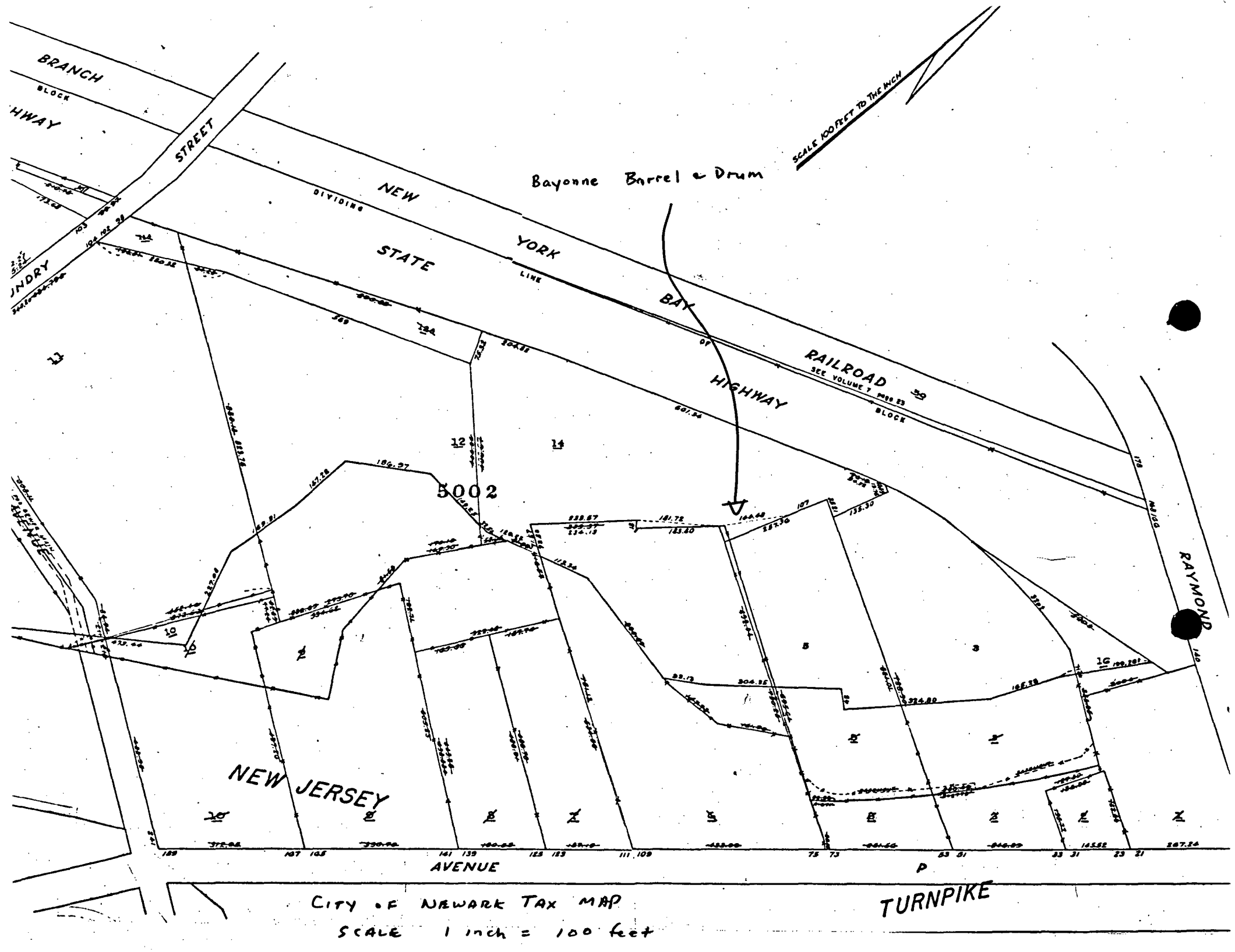
USGS QUAD MAP: Elizabeth & Jersey City Quads

SCALE: 1 inch = 2000 feet

BAYONNE BARREL AND DRUM CO.
154 Raymond Blvd.
Newark, Essex County



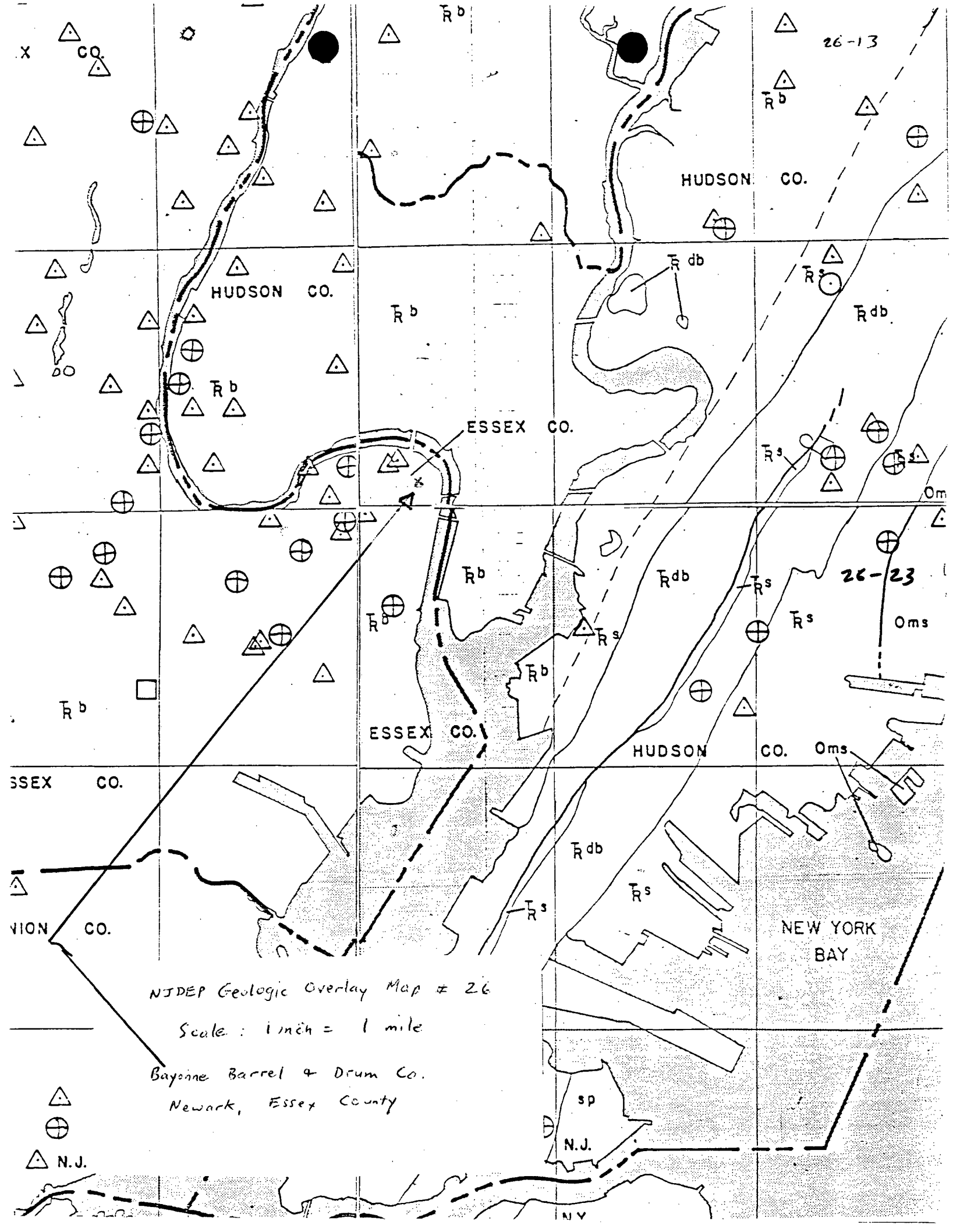
ATTACHMENT C-6

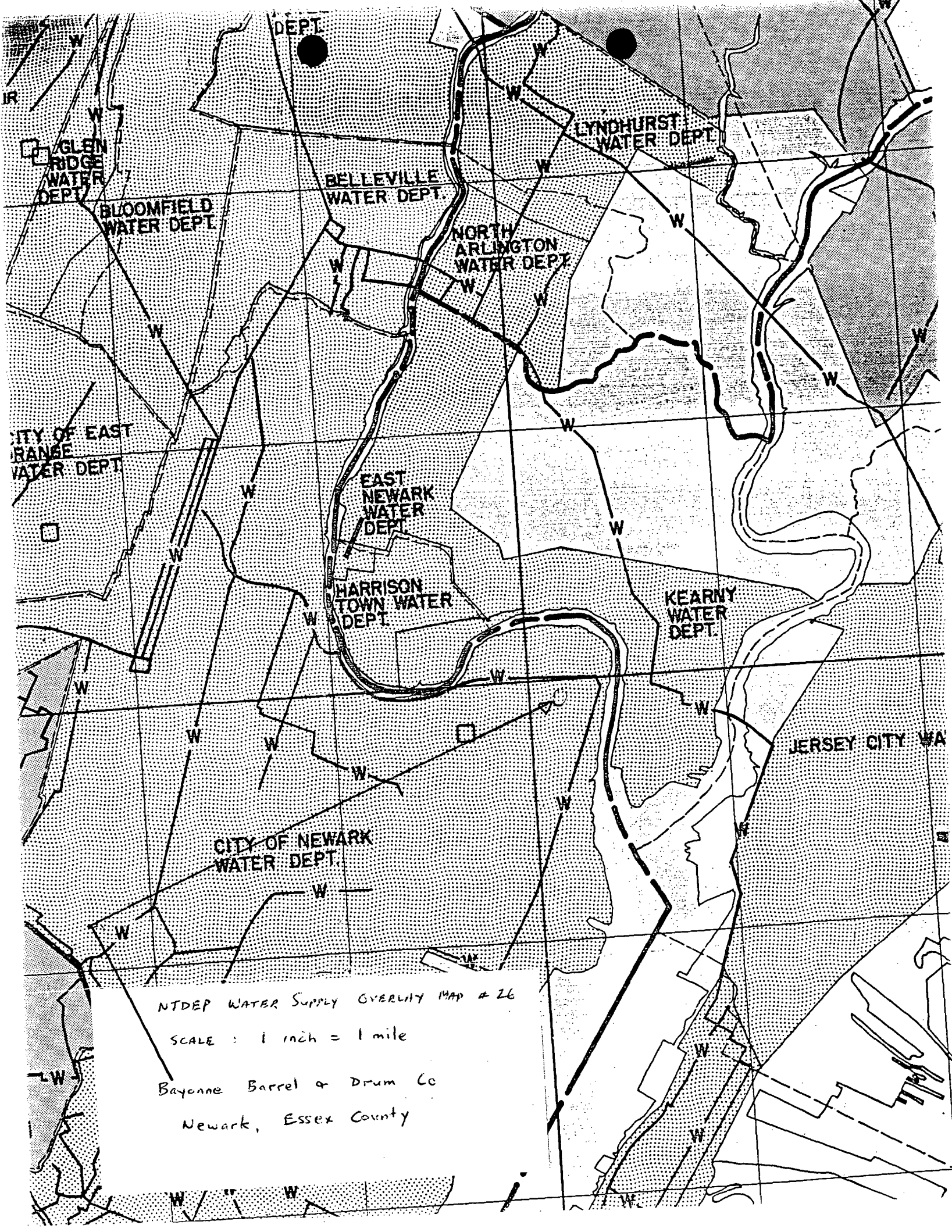


CITY OF NEWARK TAX MAP

SCALE 1 inch = 100 feet


NJ ATLAS BASE MAP # 26
SCALE : 1 inch = 1 mile
Bayonne Barrel & Drum Co.
Newark, Essex County, N.J.
NEWARK AIRPORT
PORT NEWARK TERMINAL
HARRISON
KEARNY
NORTH ARLINGTON
BELLEVILLE
NUTLEY
CLIFTON
PASSAIC
JERSEY CITY
BAYONNE
GUTTENBERG
NORTH BERGEN
SECAUCUS
WEEHAWKEN
HOBOKEN
ASPEN
JOURNAL SQUARE
GREENVILLE
VAN NOSTRAND AV.
NEWARK WEST SIDE
Caven Pt.
NEW YORK BAY


26-13
26-23
HUDSON CO.
ESSEX CO.
HUDSON CO.
ESSEX CO.
HUDSON CO.
NEW YORK BAY
N.J.
N.J.
sp
Oms
Om
Rb
Rdb
Rs
NJDEP Geologic Overlay Map # 26
Scale : 1 inch = 1 mile
Bayonne Barrel & Drum Co.
Newark, Essex County


GLEN RIDGE WATER DEPT.
BLOOMFIELD WATER DEPT.
BELLEVILLE WATER DEPT.
NORTH ARLINGTON WATER DEPT.
LYNDHURST WATER DEPT.
CITY OF EAST ORANGE WATER DEPT.
EAST NEWARK WATER DEPT.
HARRISON TOWN WATER DEPT.
KEARNY WATER DEPT.
JERSEY CITY WA
CITY OF NEWARK WATER DEPT.
NTDEP WATER SUPPLY OVERLAY MAP # 26
SCALE : 1 inch = 1 mile
Bayonne Barrel & Drum Co
Newark, Essex County

I. Water Well Records

Location	Owner	Year Drilled	Screen Setting or Depth of Casing	Total Depth	g/m Yield	Formation
26-22-143	Irvington Smelting & Ref.Wks.	1953	71	209	192	Trb
26-22-143	"	1953	62'4"	304	300	"
26-22-145	Associated Mech.Devices	1960	83	250	80	"
26-22-149	Gallo Asphalt Co.	1961	107	201	200	"
26-22-213	Krueger Brewing Co.			656	435	"
26-22-228	Smith & Smith Funeral Parlor			776	25	"
26-22-234	U.S. Navy			565	39	"
26-22-237	Conmar Corp.			300	450	"
26-22-262	National Lock Washer Co.			800	100	"
26-22-275	Linde Air Products Co.	1954	44'5"	500	124	"
26-22-293	New York Port Authority	1968	60	370	260	"
26-22-322	Standard Bitulithic Co.	1964	89'11"	406	360	"
26-22-327	Pfeiffer, H.			505	12	"
26-22-333	Arkansas Co., Inc.	1965	72'9"	400	65	"
26-22-333	Ronson Metals Corp.	1965	80	300	220	"
26-22-334	Wilson, H.A. Co.			778	8	"
26-22-345	Chem-Fleur	1965	97	306	200	"
26-22-355	Englehard Ind., Inc.	1966	54/79'8"	428	167	"
26-22-355	"	1965	80'7"	400	401	"
26-22-356	"	1966	78.5/92	495	4	"
26-22-368	Rutherford & Delaney Hldg.Co.	1956	42	220	100	"
26-22-411	Bristol Meyers	1967	49	500	159	"
26-22-418	Dillon-Beck Mfg. Co.			379	100	"
26-22-449	Elizabethtown Water Co.			400	550	"
26-22-463	Orbis Products Corp.	1958	157	350	12	"
26-22-517	Pennick, S.B. Co.	1961	64'10"	585	24	"
26-22-518	Pure Carbonic			600	30	"
26-22-546	Black Diamond Grit Co.	1960	92	265	150	"
26-22-574	Londat Aetz Fabric Co.	1965	50	600	30	"
26-22-574	Elizabeth Abbatoir			641	75	"
26-22-744	Morey LaRue Laundry			700	15	"
26-22-745	"			600	14	"
26-22-785	Stevenson Car Co.			300	95	"
26-22-786	Feldman Brothers			805	54	"
26-22-795	Reichold Chemical Co.	1967	39'6"	400	415	"
26-22-828	Singer Mfg. Co.			1200	90	"
26-22-833	General Chemical Co.	1965	106	500	70	"
26-22-842	Clauss Bottling Works			500	50	"
26-22-847	Elizabethtown Gas & Light			300	0	"
26-22-852	Riker Motor Co.			500	0	"
26-22-854	Thomas & Betts Co., Inc.			500	264	"

J. Geodetic Control Survey monuments described
Index Map 26; adjacent Index Map 31

BLOCK #26-22 8/76

A. Elizabeth

B. Arthur Kill-Elizabeth, Elizabeth Channel, Morses Creek; Passaic-Lower Passaic

C. 1. Newark WSO AP - Detailed meteorologic data

2.

Map No.	Location	Period of Record
67	Elizabeth River at Irvington	1931-1938
68	Elizabeth River at Nye Ave., Irvington	7/23/38
72	Elizabeth River at Elizabeth	1921-

3.

262	Passaic River at Harrison	1967-1971
272	Elizabeth River at Morris Ave., Elizabeth	1964-

Water Quality Standards: (explained in Atlas Sheet description)
FW3, TW2 except where classified TW3

D. Brunswick Formation (Trb), Stockton Formation (Trs), Diabase (Trdb)

E. 1. Physiographic Province: Piedmont
Subdivision: Triassic Lowlands
Major Topographic Features: Wisconsin Terminal Moraine, Red Sandstone Plain, Hackensack Meadows, Newark Bay, Palisades Ridge
Elevations (ft.above sea level): ridges 300, valleys 0
Relief (ft.): 200

2. a. Normal Year: 44"
Dry Year: 36"
Wet Year: 53"

b. January: 32°F
July: 74°F

c. 243 days. Last killing frost: 4/15; first killing frost 10/20

F. Essex County:
Weequahic Park
Union County:
Elizabeth River Park
Warinanco Park

H. Boxwood Hall/Boudinot Mansion, Elizabeth (State Owened)

26-13-598	Erie Railroad			184	200	Trs
26-13-598	"			182	4	Trb
26-13-615	Keystone Metal Finishers	1968	20	200	312	"
26-13-642	"	1950	18	200	76	"
26-13-655/6	"	1960	21	150	150	Trs
26-13-668	Kiesewetter			380	0	Trdb-Trs
26-13-695	North Bergen Realty Co.			72	90	Q
26-13-775	Fairmount Chemical Co.	1965	114	300	300	Trb
26-13-775	United Shellac Co.			475	200	"
26-13-921	Miller & Co.			135	925	Q
26-13-924	DeAngelis Packing Co.	1948		45	0	"
26-13-983	Mehl, John & Co.	1913		1020	150	Trdb
26-13-983	"	1923		1050	40	"
26-13-984	Mountain Ice Co.			950	0	Trdb-PG
26-13-987	Steel Laundry Co.			1028	130	" "
26-13-994	General Refrigerator			1350	0	Trs-PG
26-13-995	Columbia Amusement Park			200	100	Trs

J. Geodetic Control Survey monuments described
Index Maps 21,26; adjacent Index Map 16

SUBJECT TO REVISION

WATER WITHDRAWAL POINTS AND NJGS CASE INDEX SITES WITHIN 5.0 MILES OF:

LATITUDE 404356
LONGITUDE 740730

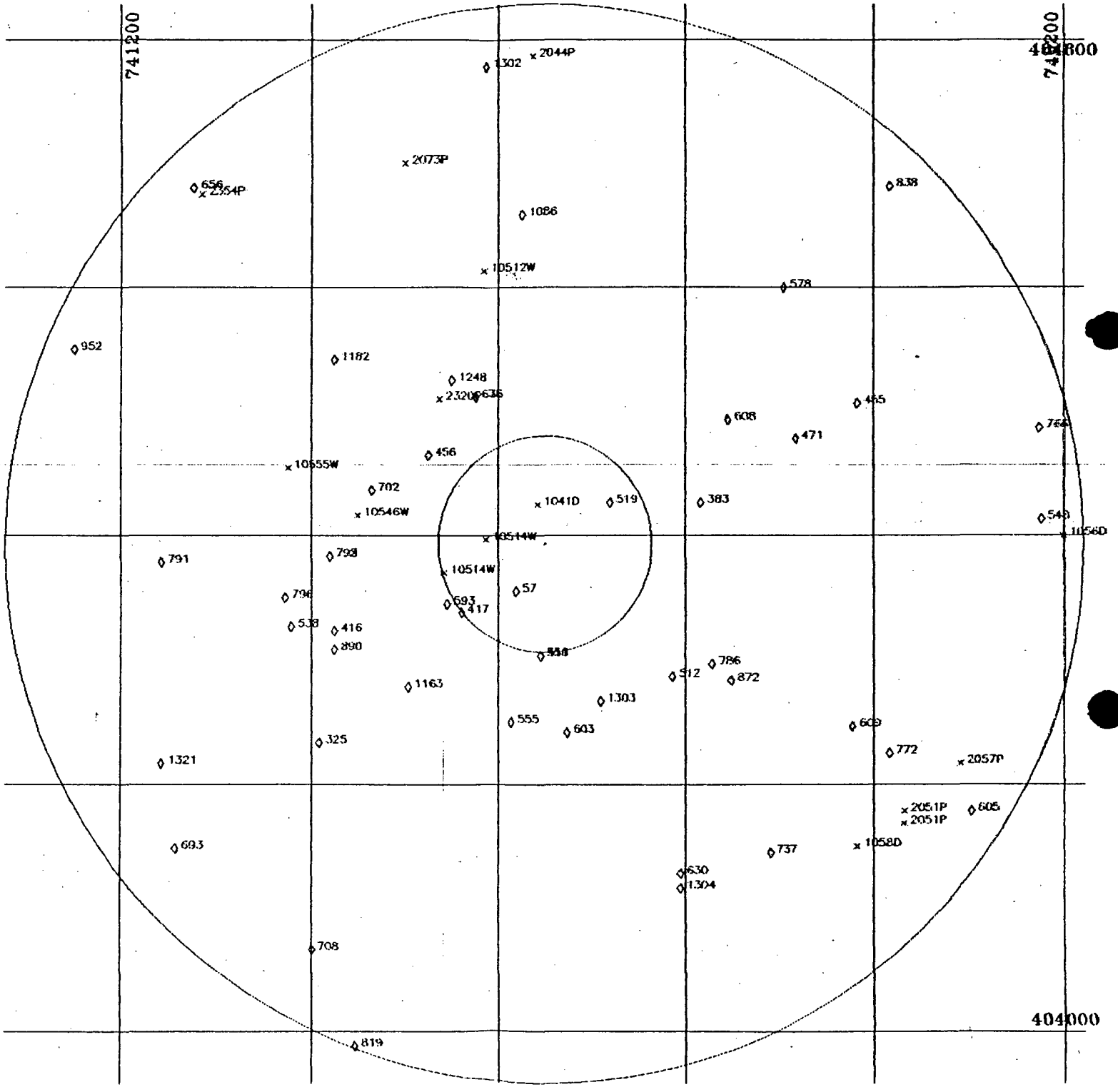
DRAFT

SCALE: 1:63,360
(1 Inch = 1 Mile)

× WATER WITHDRAWAL POINTS
◊ NJGS CASE INDEX SITES
1 MILE AND 5 MILE RADII INDICATED

NJGS CASE INDEX DATA RETRIEVED FROM:
NEW JERSEY GEOLOGICAL SURVEY
ON 12/22/87

PLOT PRODUCED BY:
NJDEP
DIVISION OF WATER RESOURCES
BUREAU OF WATER ALLOCATION
CN-029
TRENTON, NJ 08625
DATE: 10/08/88



SUBJECT TO REVISION

 PRELIMINARY SURVEY OF WATER WITHDRAWAL POINTS WITHIN 5.0 MILES OF 404356 LAT. 740730 LON. (IN ORDER BY PERMIT NUMBER) - 10/08/88

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	GEO1	GEO2	CAPACITY
1041D	AMERICAN REF-FUEL COMPANY	175 WELL	POINTS	404415	740735	F	0.4	13	14	35	GRSD		250
10512W	V.H. SWENSON CO., INC.	2602717	1	404608	740809	F	2.6	17	07	400	GTRB		150
10514W	RONSON METALS CORP.	2603408	1	404358	740808	T	0.6	13	14	300	GTRB		150
	RONSON METALS CORP.	3604993	3	404342	740835	T	1.0	13	14	165			100
10546W	PUBLIC SERVICE ELECTRIC & GAS	4600103	1	404410	740930	F	1.8	17	04	216	GTRB		250
10553W	NEW JERSEY BELL TEELEPHONE	2603173	1	404433	741015		2.5	13	14	215	GTRB		60
1056D	NEWPORT CITY DEV. CO.			404400	740200	F	4.8	17	06				1000
1058D	PORT LIBERTE PARTNERS			404130	740410	F	4.0	17	06				200
2044P	GRAND UNION CO.	4600002		404752	740738	S	4.5	03	39	300	GTRB		80
2051P	LIBERTY HILLSIDE ASSOC.	4600077	STANDBY	404147	740341		4.2	39	07	275	GTRB		250
	LIBERTY HILLSIDE ASSOC.	4600078	STANDBY A	404141	740341		4.2	39	07	186	GTRB		250
	LIBERTY HILLSIDE ASSOC.	4600079	MAIN B	404141	740341		4.2	39	07	400	GTRB		465
	LIBERTY HILLSIDE ASSOC.	2600418	MAIN D	404141	740341		4.2	39	07	400	GTRB		350
2057P	SPINNERIN YARN CO., INC.	4600174	1	404210	740305	F	4.4	03	59	230	GTRB		120
2072P	INTERNATIONAL MINERALS & CHEM.	4600092	1	404700	740900	T	3.8	13	01	352	GTRB		100
	INTERNATIONAL MINERALS & CHEM.	4600093	2	404700	740900	T	3.8	13	01	400	GTRB		150
	INTERNATIONAL MINERALS & CHEM.	3605113	3	404700	740900	T	3.8	13	01	400	GTRB		150
2330P	HONEYCOMB PLASTICS CORP.	4600182	1	404506	740838	S	1.7	17	07	500	GTRB		210
	HONEYCOMB PLASTICS CORP.	2602384	2	404506	740838	S	1.7	17	07	700	GTRB		500
2354P	ESSEX COUNTY DEPT. OF PARKS	2604594	2	404645	741110	T	4.6	13	14	450	GTRB		180

Number of Observations: 20

SITENUM	NAME	LAT	LON	DISTANCE	CONTAM	FMCODE1	FMCODE2	STATUS1	STATUS2
57	ASHLAND CHEM., NEWARK, ESSEX CO.	404333	740749	0.5	53	130	3070	1	
325	FRONTAGE ROAD DRUM DUMP, NEWARK, ESSEX CO.	404220	740755	2.8	1	0130	0	1	B
383	PSE&G, KEARNY, HUDSON CO.	404416	740550	1.5	38	130	3070	0	
410	INLAND CHEM., NEWARK, ESSEX CO.	404302	740733	1.0	00	3070	0	9	
416	ALBERT STEEL DRUM/ PRENTISS DRUG, NEWARK, ESSEX CO. (DIOXIN)	404314	740945	2.1	72	103	130	1	E
417	TROY CHEM., NEWARK, ESSEX CO.	404323	740824	1.0	38	130	3070	1	
455	DIAMOND SHAMROCK, S. KEARNY, HUDSON CO.	404504	740410	3.2	35	103	101	1	
456	CONRAIL-MEADOWS YARD, KEARNY, HUDSON CO.	404439	740845	1.4	52	101	130	1	
471	KOPPERS, KEARNY, HUSDON CO.	404447	740449	2.5	1	103	130	9	
512	ROOSEVELT DRIVE-IN (DAYLIN/GRACE), JERSEY CITY, HUDSON CO.	404252	740608	1.7	39	103	101	5	B
519	SYNCON RESINS, KEARNY, HUDSON CO.	404416	740646	0.7	00	100	3070	1	G
538	J.L. ARMITAGE + CO., NEWARK, ESSEX CO.	404316	741013	2.5	0	130	3070	1	
548	CONRAIL YARD, HOBOKEN, HUDSON CO.	404406	740214	4.6	52	103	110	1	
551	SUNMARK IND., NEWARK, ESSEX CO.	404302	740733	1.0	63	130	3070	9	
555	CENTRAL STEEL DRUM, NEWARK, ESSEX CO.	404230	740752	1.7	1	130	3070	0	
578	CONRAIL SECAUCUS, HUDSON CO.	404600	740457	3.3	1	103	102	1	
593	FEDERATED METALS, NEWARK, ESSEX CO.	404327	740833	1.1	0	130	3070	9	
603	TEXACO TERMINAL, NEWARK, ESSEX CO.	404225	740716	1.8	53	130	3070	9	
605	PITTSTON PETROLEUM, JERSEY CITY, HUDSON CO.	404147	740258	4.7	53	103	101	8	
608	STANDARD CHLORINE, KEARNY, HUDSON CO.	404456	740533	2.1	39	103	101	0	
609	GARFIELD AVE., 880, JERSEY CITY, HUDSON CO.	404228	740413	3.3	39	103	102	1	
630	MOBAY CHEMICAL CORP., BAYONNE CITY, HUDSON CO.	404117	740603	3.3	00	103	0	9	
635	80-LISTER AVENUE, NEWARK, (DIOXIN CASE), ESSEX CO.	404507	740815	1.5	72	103	0130	1	G
656	COOPER IND (FORM.MCGRAW EDISON), BELLEVILLE, ESSEX CO.	404648	741115	4.6	00	3070	130	1	C
676	120 LISTER AVE (DIOXIN), NEWARK, ESSEX CO.	404507	740815	1.5	72	0103	0130	1	G
693	J.T. BAKER, PHILLIPSBURG, WARREN CO.	404129	741126	4.4	00	130	8010	1	A
702	HARRISON COAL GAS SITE, HUDSON CO.	404422	740921	1.7	70	0110	3070	1	C
703	KAMKOWSKI RD. LANDFILL, ELIZABETH, UNION CO.	404040	741000	4.3	50	100	3070	0	
737	PJP LANDFILL, JERSEY CITY, HUDSON CO.	404127	740506	3.5	58	103	101	9	
766	CARNIVAL SPRAYING CO., INC, HOBOKEN, HUDSON CO.	404452	740215	4.7	63	0103	0100	1	B
772	COLUMBIA PAINT, INC., JERSEY CITY, HUDSON CO.	404215	740550	3.7	00	0103	0110	1	B
786	ENGLER INSTRUMENTS, JERSEY CITY, HUDSON CO.	404258	740543	1.9	35	0103	3050	1	B
791	GENERAL ELECTRIC CO-NEWARK LAMP PLANT	404347	741135	3.6	00	0103	3070	1	B
792	GEORGIA-PACIFIC CORP--CASTING OPER, NEWARK, ESSEX CO.	404350	740948	2.0	00	0110	3070	1	B
793	GEORGIA-PACIFIC CORP--POLYMER MATE., NEWARK, ESSEX CO.	404350	740948	2.0	00	0110	3070	1	B
796	J & R METALLIZING CO, INC., NEWARK, ESSEX CO.	404330	741017	2.5	00	0110	3070	1	B
819	NOUDEX, INC - ELIZABETH PLANT, UNION CO.	403953	740932	5.0	00	0103	0100	1	B
838	SQUARE D CO, SECAUCUS, BERGEN CO.	404649	740350	4.6	00	0110	3070	1	B
872	TEXTILE PRODFERS, JERSEY CITY, HUDSON CO.	404250	740531	2.1	63	0103	3050	1	B
890	CHEM-FLEUR, NEWARK, ESSEX CO.	404305	740945	2.2	00	0110		1	B
952	ORANGE WATER DEPT., ORANGE, ESSEX CO.	404530	741230	4.7	00	0130	3070	1	C
1036	G M Z CONCRETE, NORTH ARLINGTON, BERGEN CO.	404635	740745	3.0	53	0103	0	1	B
1163	OAK ISLAND-CONRAIL TERMINAL, NEWARK, ESSEX CO.	404247	740858	1.8	52			3	
1182	FRANKLIN PLASTICS, KEARNY, HUDSON CO.	404525	740945	2.6	34	0100	3070	1	B
1248	GUIGNON & GREEN, KEARNY, HUDSON CO.	404515	740830	1.7	53	0130	0101	1	C
1302	RESEARCH ORGANIC/INORGANIC CHEM CORP,BELLEVILLE, ESSEX CO.	404747	740908	4.5	00	0130	3070	1	E
1303	DROYERS POINT, JERSEY CITY, HUDSON CO.	404240	740654	1.5	39	0101	0130	1	A
1304	ROUTE 185, JERSEY CITY, HUDSON CO.	404110	740603	3.4	39	0130	0101	1	B
1321	J.F.HENRY CHEMICAL CO., NEWARK, ESSEX CO.	404210	741135	4.1	63	0110	3070	1	B

Number of Observations: 49

RCRA Enforcement Inspection

Bayonne Barrel and Drum
Newark, New Jersey

NJD009871401

June 2, 1988

Participating Personnel:

U.S. Environmental Protection Agency

M. Ferriola, Environmental Scientist
R. Coleates, Environmental Scientist
R. Morrell, Geologist
D. Dugan, Environmental Scientist
J. Wilk, Environmental Scientist

Bayonne Barrel and Drum

Frank Langella, Company owner

Report Prepared by:

Michael Ferriola, Environmental Scientist
Source Monitoring Section

Approved for the Director by:

ATTACHMENT A-1

Richard D. Spear, Chief
Surveillance and Monitoring Branch

RCRA ENFORCEMENT INSPECTION

Objective

A RCRA sampling inspection was conducted at Bayonne Barrel and Drum (BBD) on June 2, 1988, by members of EPA's Region II, Environmental Services Division. This investigation was requested by the Hazardous Waste Compliance Branch (HWCB) in New York. The scope of this inspection was to determine if BBD is actively storing hazardous wastes on site and establish present site conditions as compared to the original sampling investigation performed by EPA in 1984. A general site map (Figure 1) is attached which illustrates the approximate sampling locations.

Survey Participants

Frank Langella, Company owner - Bayonne Barrel and Drum

Tom Colligan, Operations Manager - Interwaste Services Company (ISCO)
James Wilson, Field Engineer - ISCO
Andy Kondracki, Environmental Controls Manager - ISCO
Mike Young, ISCO

Mike Ferriola, Environmental Scientist - U.S. EPA
Richard Coleates, Environmental Scientist - U.S. EPA
Robert Morrell, Geologist - U.S. EPA
David Dugan, Environmental Scientist - U.S. EPA
John Wilk, Environmental Scientist - U.S. EPA

* Personnel from Interwaste Services Co. (ISCO) were contracted by BBD to collect split samples and observe EPA sampling activities.

Discussion

On June 2, 1988, a RCRA sampling inspection was conducted at Bayonne Barrel and Drum, located at 150 Raymond Boulevard in Newark, New Jersey. Two previous sampling inspections were attempted. However, due to an access denial on May 12 and inclement weather on May 19, those inspections were not completed. Access was denied on May 12 by BBD's attorney, Damon Sadita, after being on site for approximately one hour and actively engaged in sampling. EPA was informed by their attorney that investigative personnel (EPA) should not be on site. This arrangement was made as per an agreement with the Department of Justice in Washington, D.C., since the site was already in litigation. A second sampling visit was scheduled, after consent by EPA and BBD attorneys, exactly one week later on May 19, 1988. Due to excessive rain the previous 36 hours, sampling had to be postponed once again.

Site Description

Currently, BBD is an inactive drum reconditioning facility which has filed for bankruptcy under Chapter 11 and is only staffed by a few maintenance/security people. The plant has undergone some surficial cleaning/housekeeping which includes the arrangement of empty drums in orderly rows, grading of empty lots on the south side of the buildings, and removal of most equipment from the building interiors. In addition, the ash pile on the southwest corner of the property has been covered with a sheet of clear plastic. During EPA's initial attempt to sample, the ash pile was found uncovered. However, on a second sampling attempt, the contractor representing BBD had covered the ash pile with several rolls of clear sheet plastic. During the third and actual sampling inspection, the pile remained covered.

Even though the plant "appears aesthetically cleaner", there remain a few areas which appear grossly contaminated. The drum and ash storage room contains a large ash pile from incineration activities. Also, approximately 150 drums remain which contain ash or aqueous materials. A few drums had holes punched in their sides which allowed the contents to stain the surrounding floor space. A couple of drums had been inverted to prevent their contents from leaking and others were severely dented and/or crushed. Most drums contained ash which looked similar in nature to the ash pile in the middle of the room. See the attached photographs for illustrations. Approximate building locations and sampling sites are depicted in Figure 1. In addition, an ash pile remains in the courtyard between the incinerator and the furnace room building. The ash residue was multicolored, as shown in the attached photographs.

Sampling locations and methodology

In order to fulfill the objectives of this investigation, a total of seven predetermined locations were selected. The sampling network and rationale was based upon a previous sampling inspection by EPA (2/84) and new locations proposed by the HWCB during a presurvey walk-through conducted on April 15, 1988. Based upon this information, the following points were selected:

1 - Furnace room building
2 - Courtyard area
3 - Drum and ash storage room (near incinerator)
4 - Waste ash pile (near rows of drums)
5 - Oil separator trench
6 - Pump House (near oil separator trench)
7 - Underground tank (near toluene pump)

Approximate sample locations are depicted in Figure 1 which correspond to the sample numbering system above. The analyses requested included EP Toxicity (metals only), volatile organic analysis (VOA), non-volatile organic analysis (NVOA), PCB's, and also pH for aqueous samples. In addition, ignitability was analyzed on the drum sample containing an aqueous solution (sample # 112213).

The following is a list of sample identification numbers, corresponding sample locations, and descriptions of collection techniques:

Sample #112201 - This sample was collected from the floor of the furnace room building as depicted in picture #10. The ash sample was collected at random from several locations using a dedicated polypropylene scoop. The sample was then mixed in a stainless steel tray to form a composite sample, which was subsequently split for EPA personnel and the BBD contractor. The stainless steel tray was lined with new "Whatman Benchcoat" paper each time a sample for ash was collected to prevent cross contamination among different sampling locations.

Sample #112202 - Courtyard area ash sample collected at random using the same techniques as listed in sample #112201. Photographs #5 - 9 illustrate the sample location and collection techniques. Make special notice of the various colors encountered in the ash pile and sample collected.

Sample #112203 - Drum and Ash storage room ash sample collected in a manner identical to that listed in sample #112201. Level B personal protective equipment (PPE) was worn in this area due to the presence of hazardous organic vapors, as indicated by air monitoring equipment. Pictures #15-16 illustrate sampling technique and level of protective equipment required.

Sample #112204 - This sample number represents the "WEST" half of the waste ash pile near the drum storage area. An imaginary line was drawn through the ash pile to delineate an "EAST" and "WEST" half, for the purpose of sampling only. Figure 1 shows the relative location of the ash pile and illustrates the approximate boundary drawn to delineate the two halves. Photographs #17 and 19 illustrate the entire waste ash pile and sample collection in the "WEST" half, respectively. Level C PPE was worn during sample collection and compositing. Since the ash pile was covered with polyethylene plastic sheeting, holes were cut at random to enable sample collection. Samples were collected using a dedicated polypropylene scoop and throughly mixed in a stainless steel tray to form a composite sample.

Sample #112205 - Aqueous samples were collected from the oil separator trench using an I-Chem Series 300, one quart glass jar attached to an aluminum rod and clamp. Samples were poured directly from the glass jar into the respective sample containers.

Sample #112206 - Aqueous samples were collected from the pump house using the same techniques mentioned in sample #112205. Picture #1 illustrates the pump house and rod/clamp used for sample collection. A duplicate sample, #112211, was also collected at this location.

Sample #112207 - Aqueous samples were collected from an underground tank near the toluene pump. The sample was collected by taping an I-Chem Series 300 glass jar to an aluminum rod. The sample was collected in this manner due to the size of the access standpipe. In addition, the aluminum rod was shaped to fit the angled opening of the tank. See picture #3, which illustrates sampling of the underground tank.

Sample #112208 - In addition to collecting ash samples from the courtyard, aqueous samples were also collected as depicted in photgraph #4. Ponded water samples were collected in a low lying area adjacent to the courtyard ash pile and incinerator. Sample collection technique was by direct filling an I-Chem Series 300 glass jar and pouring into the appropriate sample containers.

Sample #112212 - This sample number represents the "EAST" half of the waste ash pile near the drum storage area. Photograph #18 depicts sampling the "EAST" half of the ash pile while wearing Level C PPE. Sample collection techniques were the same as in sample #112204. A series of random grab samples were collected using a dedicated polypropylene scoop and then composited in a stainless steel tray. After the sample was throughly mixed, the respective sample containers were filled.

Sample #112213 - An aqueous sample was collected from a "RED" drum in the drum and ash storage room as depicted in photographs #11 - 12. Level B PPE was worn due to the presence of high concentrations of unknown organic contaminants. The drum was sampled using a precleaned, dedicated teflon bailer. Pictures #13 - 14 indicate the particular red drum which was sampled and other drums in the immediate area. Note the condition of the drums in all four photographs. Most of the drums contained ash which looked similar in nature to the ash pile in the center of the room. However, some of the drums contained liquids of unknown content. Many of the containers were in very poor condition, some with holes and a few inverted to prevent their contents from leaking onto the floor.

All samples were collected in accordance with established EPA, Region II protocols. Standard EPA Chain of Custody procedures were employed throughout this inspection and a receipt for samples was signed by the facility representative (ISCO), as required under section 3007 (a) of RCRA. All samples collected by EPA were split with ISCO during this investigation (containers for BBD samples were provided by ISCO). EPA samples were analyzed at the Region II laboratory in Edison, New Jersey.

Results of Analyses

The results obtained from the samples collected during this investigation are presented in the following tables: Volatile Organics GC/MS scan (Table 1), Non-volatile Organics GC/MS scan (Table 2), and EP TOX Metals (Table 3).

Table 1 presents the volatile organic compounds and concentrations that were detected. The results indicate the presence of volatile organics in all samples collected. Exceptionally high concentrations of volatile organic compounds were found in samples #112212 and #112213. Concentrations ranged from 490 ug/l of trichloroethylene to 10,000,000 ug/l of xylene in those samples.

Table 2 presents the non-volatile organics/PCB compounds and concentrations that were detected. Very high concentrations of non-volatile organics were found in the ash samples, as presented in the attached tables, pages 2a - 2b. In addition, PCB's were found in sample #112212 at 115,400 and 293,970 ug/l for Aroclor 1248 and 1254, respectively. High concentrations of non-volatile organics were also found in the drum sample, #112213.

Table 3 presents the results of analyses for the hazardous waste characteristic of EP Toxicity (metals). The maximum concentration allowed for cadmium (1.0 mg/l) was exceeded in three of the samples collected (#112201, 112203, and 112204). All other EP Toxicity metals contaminants were below the maximum limit allowed, as presented in Table 3.

Aqueous samples were analyzed for pH, and in addition, ignitability analysis was performed on the drum sample. Results of these analyses show that none of the samples analyzed met the criteria of corrosivity or ignitability, as per 261.21 and 261.22. Results are presented below:

Characteristic of Corrosivity

Sample #	ph (SU)
112205	7.37
112206	6.59
112207	6.28
112208	6.70
112213 (drum)	10.9

Characteristic of Ignitability

Sample #	Flash point
112213	> 145°F

ATTACHMENT A-6

Findings and Conclusions

Based upon the sampling results of this investigation and a visual inspection of the site, Bayonne Barrel and Drum is in violation of existing RCRA and TSCA regulations. Analytical results indicate that the waste ash pile, drum and ash storage room ash, and furnace room ash are a RCRA hazardous waste in accordance with 40 CFR Part 261.24. The ash exhibits the characteristic of EP Toxicity for cadmium (D006).

Results of PCB analyses show concentrations for Aroclor 1248 and 1252 to be 115 and 293 mg/l, respectively. This is a violation of TSCA regulations 40 CFR Part 761.60.

The waste ash pile was still in violation of 40 CFR Part 265, Subpart L (waste piles) during the initial site visit on May 12, 1988. The pile was subsequently covered by sheet plastic on May 19, 1988. However, a containment system to prevent and collect run-off or eliminate a discharge to groundwater does not exist.

The drum and ash storage room contained many drums, approximately 100-150, which were not marked as a hazardous waste and were apparently stored in excess of 90 days.

In addition, numerous organic compounds were found throughout the site in varying concentrations. All results are listed in Tables 1-3.

TABLE 1
BAYO[redacted] BARREL AND DRUM, NEWARK, NEW [redacted]SEY
VOLATILE ORGANICS GC/MS SCAN
JUNE 2, 1988

Ash samples

PARAMETER/SAMPLE#	ash from floor of furnace room #112201	ash - (courtyard) #112202	ash (drum/ash storage room) #112203	ash pile #112204	ash pile #112212
Benzene					
Carbon Tetrachloride			28 M		
Chlorobenzene			540 M		
1,2-dichloroethane					
1,1,1-trichloroethane	96 M		340 M		64 M
1,1-dichloroethane					
1,1,2-trichloroethane					680 M
1,1,2,2-tetrachloroethane					
Chloroethane					
Chloroform		28 J	60 M		24 M
1,1-dichloroethylene					
1,2-trans dichloroethylene					
1,2-dichloropropane					
1,3-dichloropropylene					
Ethylbenzene	140 M	570	1500	100 M	5200
Methylene chloride					
Methyl chloride					
Methyl bromide					
Bromoform					
Dichlorobromomethane					
Chlorodibromomethane					
Tetrachloroethylene		80 M	1200	140 M	1300
Toluene	310 M	1300	2700	200 M	12,000
Trichloroethylene	82 M	46 M	550	110 M	490
Vinyl chloride					
Xylene		1200	3200		4600
Styrene					2500

All concentrations in ug/kg.
M = above the detection limit, but below the level of quantification
J = estimated value

ATTACHMENT 4-8

TABLE 2 TABLE 1
BAYGNNE BARREL AND DRUM, NEWARK, NEW JERSEY
VOLATILE ORGANICS GC/MS SCAN
JUNE 2, 1988

Aqueous samples

PARAMETER/SAMPLE#	aqueous (oil sep. trench) #112205	aqueous (pump house) 112206	Dup. 112211	aqueous (CuIG tank) #112207	aqueous (ponded water) #112208	aqueous (drum) #112213
Benzene			4.4			92,000
Carbon Tetrachloride						
Chlorobenzene		9.4	7.3			78,000
1,2-dichloroethane						
1,1,1-trichloroethane		5.2	4.3			
1,1-dichloroethane		11	8.8			
1,1,2-trichloroethane		1.3M	1.0M			
1,1,2,2-tetrachloroethane						
Chloroethane						
Chloroform	2.6 M	1.6	5.5	10		
1,1-dichloroethylene						
1,2-Trans dichloroethylene	3.7 M	55	41	2.3		
1,2-dichloropropane						
1,3-dichloropropylene						
Ethylbenzene		130	110	1.8 M	14 M	1,200,000
Methylene chloride						
Methyl chloride						
Methyl bromide						
Bromoform						
Dichlorobromomethane						
Chlorodibromomethane						
Tetrachloroethylene		2.2M	1.6M			62,000
Toluene	2.6 M	660	540	0.4 M	600 J	2,400,000 J
Trichloroethylene		4.5	3.4	0.5 M		
Vinyl chloride		18	12			
Xylene	5.0 M	140	220	4.1 J	60 J	10,000,000
4-methyl-2-pentanone		21	17			
Styrene			38			

All concentrations in ug/l.
M = above the detection limit, but below the level of quantification
J = estimated value

ATTACHMENT 4-9

BAYONNE, NEWARK, NEW JERSEY
NON-VOLATILE ORGANICS GC/MS SCAN
JUNE 2, 1988

Ash samples

PARAMETER/SAMPLE #	ash (furnace room) 112201	ash (courtyard) 112202	ash (drum/ash storage room) 112203	ash pile 112204	ash pile 112212
2-chlorophenol					
2-nitrophenol					
phenol		2350 J	104,400 J		
2,4-dimethylphenol			2,350 M		
2,4-dichlorophenol					
2,4,6-trichlorophenol					
p-chloro-m-cresol					
2,4-dinitrophenol					
4,6-dinitro-o-cresol					
pentachlorophenol					
4-nitrophenol					
1,3-dichlorobenzene					
1,4-dichlorobenzene				140 M	
1,2-dichlorobenzene		330 M	5,780 M	400 M	
hexachloroethane					
hexachlorobutadiene					
1,2,4-trichlorobenzene	490 M	620 M	49,200 J	2820 J	
napthalene	2600 J	9910 J	15,050 J	6430 J	1210 M
bis(2-chloroethyl) ether					
bis(2-chloroethoxy) methane			5,080 M		
isophorone		6730 J	5,060 M	1060 M	
nitrobenzene					
acenaphthylene		1250 M	700 M	2850 M	
acenapthene		130 M	3,700 M	450 M	
fluorene		1520 M	7,375 J	490 M	
hexachlorobenzene					
phenanthrene	1140 M	1880 J	37,380 J	3080 M	220 M
anthracene	230 M	1850 M	3,550 M	1240 M	
fluoranthene	650 M	2490 M		1970 J	140 M
aniline	160 M				
2-methyl napthalene	1090 M	3370 J	17,180 J	4490 J	460 M
2-methyl phenol			9,600 J		
4-methyl phenol			20,000 J	1140 J	
biphenyl			20,000 J		
dimethyl diphenyl urea			37,200 J	7200 J	
n-nitrosodiphenylamine				770 M	180 M
3,3-dichlorobenzidene				520 M	
benzoic acid				5710 J	
hexane diisocyanate				12,100 J	

All concentrations in ug/kg.
M = above the detection limit, but below the level of quantification
J = estimated value

TABLE 2
BAYONNE BARREL AND DRUM, NEWARK, NEW JERSEY
NON-VOLATILE ORGANIC GC/MS SCAN
JUNE 2, 1988

Ash samples

PARAMETER/SAMPLE#	ash (furnace room) #112201	ash (courtyard) #112202	ash (drum/ash storage room) #112203	ash pile #112204	ash pile #112212
dimethyl phthalate		230 M	1750 M	170 M	
diethyl phthalate	380 M	890 M	102,930 J	1100 M	
di-n-butyl phthlate	5200 J	35,920 J	90,150 J	6830 J	1980 M
butyl benzyl phthalate	2500 M	8,070 J	67,530 J	1290 M	1780 M
di-n-octyl phthalate	340 M		5850 M		50 M
bis(2-ethylhexyl) phthalate		51,060 J	259,230 J	39,960 J	
pyrene	660 M	480 M	7500 J	3610 J	200 M
chrysene	160 M	630 M	1950 M	2070 M	
1,2-benzanthracene	110 M	400 M	1055 M	1850 M	
4-chlorophenyl phenyl ether					
benzo(a) pyrene		2450 M			
1,12-benzoperylene					
benzyl alcohol		710 M	24,730 J	2570 J	
2-methyl alcohol					
dibenzofuran	250 M	750 M	3450 M	360 M	
toluene diisocyanate		340,000 J			
phthalic anhydride		56,000 J			1500 J
naphthalene isocyanate		67,000 J			
2,6 dinitrotoluene					
2,4-dinitrotoluene				120 M	
1,2-diphenylhydrazine		1560 M			110 M
3,4-benzofluoranthene	280 M	2950 M			
11,12-benzofluoranthene					
dihydrotrimethylphenyl ind.				33,000 J	
phenol,2,4-bis(1,1-dimethyl)				4590 J	
ylangene			12,500 J		
homosolate			123,000 J	5700 J	
cholestanol					
PCB-1016					
PCB-1221					
PCB-1232					
PCB-1242					
PCB-1248					293,970
PCB-1254					115,400
PCB-1260					

All concentrations in ug/kg.
J = Estimated value.
M = Above the detection limit, but below the level of quantification.

ATTACHMENT 4-11

TABLE 2
BAYONNE BARREL AND DRUM, NEWARK, NEW JERSEY
NON-VOLATILE ORGANICS GC/MS SCAN
JUNE 2, 1988

Aqueous samples

PARAMETER/SAMPLE #	aqueous (oil sep trench) #112205	aqueous (pump house) 112206	Dup. 112211	aqueous (old tank) #112207	aqueous (ponded water) #112208	aqueous (drum) #112213
2-chlorophenol						
2-nitrophenol						
phenol	1.3 M		3.2 M		1.4 M	
2,4-dimethylphenol		7.3	11.2 M	0.2 M	6.2	
2,4-dichlorophenol				1.1 M		
2,4,6-trichlorophenol						
p-chloro-m-cresol						
2,4-dinitrophenol						
4,6-dinitro-o-cresol						
pentachlorophenol						
4-nitrophenol						
1,3-dichlorobenzene	1.1 M	0.4 M				2610
1,4-dichlorobenzene	4.2 M	1.5 M		1.6 M		34,200
1,2-dichlorobenzene	1.2 M	1.6 M		0.2 M		167,140
hexachloroethane						
hexachlorobutadiene						
1,2,4-trichlorobenzene	0.8 M	0.5 M			0.2 M	393
napthalene		11.7	14.7 M			28,380
bis(2-chloroethyl) ether						
bis(2-chloroethoxy) methane						
isophorone		2.4			2.8	109
nitrobenzene						
acenaphthylene					2.5 M	
acenapthene						137
fluorene		1.3 M	7.8 M		0.5 M	
hexachlorobenzene						
phenanthrene	0.3 M	2.7 M	18.7 M	0.2 M	2.8 M	115 M
anthracene					1.6 M	
fluoranthene		0.8 M		2.2 M	4.2	
aniline						
2-methyl napthalene			11.7 M			61,080 J
2-methyl phenol	0.8 M	20.1 J	18.5 M			
4-methyl phenol		11.3 J	8.0 M		1.9 M	
benzoic acid			54.3 M		6.2	
methylbenzene sulfonamide	179 J				75 J	
methyl ethylbenzene		25.3 J				

All concentrations in ug/l.
M = above the detection limit, but below the level of quantification
J = estimated value

ATTACHMENT A-12

TABLE 2
BAYONNE BARREL AND DRUM, NEW[illegible]
NON-VOLATILE ORGANIC GC/MS SCAN
JUNE 2, 1988

Aqueous samples

PARAMETER/SAMPLE#	aqueous (oil sep. trench) #112205	aqueous (pump house) 112206	Dup. 112211	aqueous (old tank) #112207	aqueous (ponded water) #112208	Aqueous (drum) #112213
dimethyl phthalate		0.4 M				
diethyl phthalate						
di-n-butyl phthlate		7.2				
butyl benzyl phthalate	1.1 M	10.6 J	46.3J		7.1 M	
di-n-octyl phthalate		1.6 M	3.7M		0.7 M	
bis(2-ethylhexyl) phthalate	1.4 M	13.5 J	106.8J	4.7 J	21.7 J	
pyrene		1.3 M	7.9M	0.1 M	6.5	
chrysene	0.1 M	0.2 M	1.1M		1.8 M	
1,2-benzanthracene		0.1 M	0.5M		0.7 M	
4-chlorophenyl phenyl ether						
benzo(a) pyrene	0.2 M	0.2 M			2.8	
1,12-benzoperylene		0.5 M			4.3	
benzyl alcohol		5.3 J	3.1M			
2-methyl alcohol						
dibenzofuran		0.8 M	2.0M		0.4 M	567
2,6 dinitrotoluene						
2,4-dinitrotoluene		0.6 M				597
1,2-diphenylhydrazine	1.7 M	2.0 M		0.1 M		26.8 M
3,4-benzofluoranthene		0.1 M			2.3 M	
11,12-benzofluoranthene		0.2 M			2.5 M	
n,n-dimethyl n,n-diphenyl urea	52 J					
trimethylbenzene isomers		58.4 J				
trimethyl-1,3 pentanediol		26.3 J				
n-ethyl-4-methylbenzene sulf.		39.3 J				
tetramethyl butylphenol					27 J	
methyl napthalene isomers		5.5 M			1.4 M	
ylangene						
homosolate						
cholestanol		96.6 J	712 J	71 J		
PCB-1016						
PCB-1221						
PCB-1232						
PCB-1242						
PCB-1248						
PCB-1254	0.403					
PCB-1260						

All concentrations in ug/l.
J = Estimated value.
M = Above the detection limit, but below the level of quantification.

ATTACHMENT A-13

TABLE 3
BAYONNE BARREL AND DRUM, NEWARK, NEW JERSEY
EP TOX METALS DATA
JUNE 2, 1988

SAMPLE #/PARAMETER	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
#112201 (ash)	—	.01 M	2.84	1.16	—	—	4.72	.03 M
#112202 (ash)	.048M	.02 M	1.86	0.257	—	—	1.06	.02 M
#112203 (ash)	—	.04 M	3.53	2.84	.36 M	.15	1.69	.53
#112204 (ash)	—	.04 M	5.02	2.72	—	.0007 M	1.67	.04 M
#112205 (liq)	—	.01 M	0.22M	.027M	—	.0002 M	.1 M	—
#112206 (liq)	.012 M	.02 M	0.45M	—	—	.0003 M	—	.02 M
#112207 (liq)	.013 M	.01 M	—	—	—	—	—	.01 M
#112208 (liq)	—	.01 M	0.48M	—	—	—	—	.02 M
#112211 (liq)	—	.01 M	0.28M	—	—	.0003 M	—	.01 M
#112212 (ash)	—	.01 M	0.846M	.243	—	—	.57	.01 M
#112213 (liq)	—	1.0 M	.62M	—	1.6 M	.004 M	—	2.0 M
Maximum concentration allowed for EP TOX	5.0	5.0	100	1.0	5.0	0.2	5.0	1.0

Sample #112211 was a duplicate to sample #112206.
All concentrations expressed in mg/l.
M = above the detection limit, but below the level of quantification.

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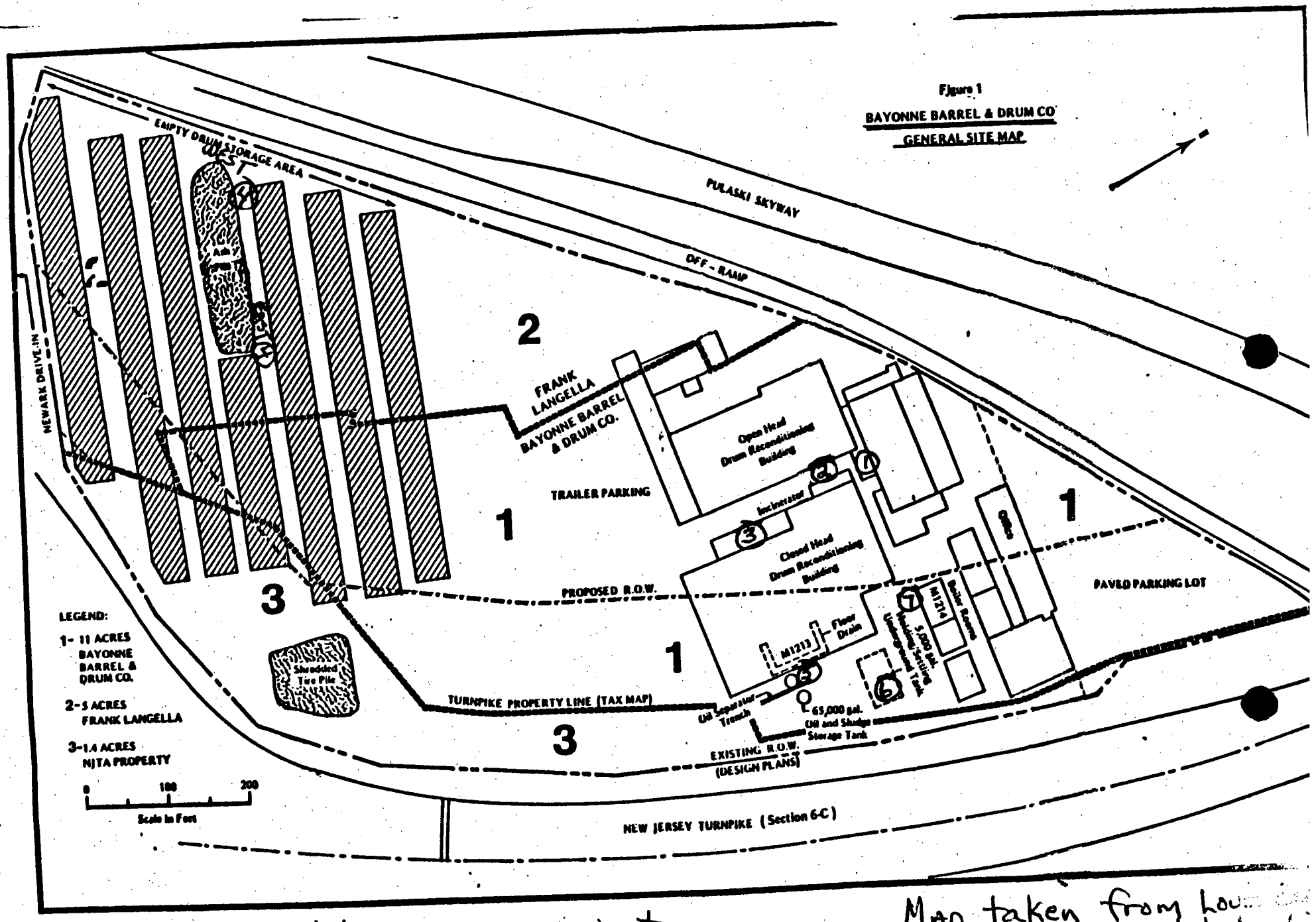

Sampling locations are approximate, as indicated by numbers in colored areas.

Map taken from Lou... and Assoc. report dated ... for NJ Turnpike Auth.

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Soil + Groundwater Characterization

Dan Raviv. Assoc July 1986

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1.0 Summary of Field Investigations

Four field investigations have been performed by DRAI at Bayonne Barrel and Drum Co., located at 150 Raymond Boulevard in Newark, New Jersey. During these investigations, undisturbed split spoon soil samples, surface sediment samples, and a surface water sample were collected from various locations around the site. Ground water monitoring wells were installed, developed and sampled, and several additional split spoon soil samples were collected from the well borings before the wells were installed. This work was done to establish the quality of soils and ground water at the site. All sample locations are displayed on Figure 2.

The field investigations, discussed below as Field Investigation I, II, III and IV, were performed on: January 18, 1985; October 25-31, 1985; November 27 - December 17, 1985; and January 7, 1986, respectively. All boring and drilling work done at the site was performed by Jersey Boring and Drilling Co., Inc. of Newark, New Jersey. All samples were collected using methods outlined in DRAI Field Procedure Protocols which were submitted with the DRAI Work Plan. Finally, samples were transported for analysis, via a chain of custody, to Gollob Analytical Service Laboratory in Berkeley Heights, New Jersey.

1.1 Field Investigation I - January 18, 1985

On January 18, 1985, DRAI personnel were at Bayonne Barrel and Drum Co. to sample the furnace residue pile. A total of nine split spoon soil samples, BBD1-BBD9, were collected from nine borings (Figure 2). Borings were located at the nodes of an imaginary grid laid out across the residue pile. In addition, four surface soil samples, one from the residue pile (BBD14) and three from the furnace area (BBD11-13), were collected. All samples, except for BBD 10, were analyzed for Polychlorinated Biphenyls (PCB) (Table I.1).

For the purpose of waste classification, a composite sample, BBD10, was created by mixing an equal volume of soil from each of three samples, BBD 2,5 and 8. BBD10 was then analyzed for EP-Toxicity parameters:

(1) Metals:
- (a) Arsenic (As)
- (b) Barium (Ba)
- (c) Cadmium (Cd)
- (d) Chromium (Cr)
- (e) Lead (Pb)
- (f) Mercury (Hg)
- (g) Silver (Ag)
- (h) Selenium (Se)

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(2) Herbicides and Pesticides:
- (a) Endrine
- (b) Lindane
- (c) Methoxychlor
- (d) Toxaphene
- (e) 2,4-D (2,4-Dichlorophenoxyacetic acid)
- (d) 2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)

(These were the required parameters at the time this analysis was requested).

1.2 Field Investigation II - October 25-31, 1985
Just prior to Field Investigation II, the utility locator service associated with Public Service Electric & Gas Company, was contacted for the purpose of marking out the location of any utility lines that may run underneath the property. They, in turn, contacted several other major utilities. DRAI was informed that two lines exist (Figure 1).

During the second field investigation, soil borings were completed by the auger method, in various areas around the site (Figure 2). Boring locations were chosen to provide general information on conditions around the site, as well as specific target areas, such as the furnace residue pile, the furnace area, and the oil storage tanks area.

In order to examine general site conditions, seventy-six samples, composed of seventy-one split spoon soil samples, four surface sediment samples, and one surface water sample, were collected. Nineteen borings were advanced to various depths between one and fifteen feet, and undisturbed split spoon samples were collected at one foot intervals down to a depth of three feet, and at two feet intervals at depths of five, nine and thirteen feet. Analysis was requested on fifty-two of the seventy-one soil samples and all five of the surface samples (Table I.2).

One of the four surface sediment samples (BBDS1) was collected from sediment accumulation adjacent to the oil separator trench. The remaining three sediment samples (BBDS2-BBDS4) were collected, one from each of the three buildings surrounding the furnace area. All three buildings had contained drum reconditioning equipment. The floor in Building 1 contains 12 drainage canals, with an east-west orientation, along the east wall of the building. All canals were filled with cinder blocks and dry sediment, which appeared to have been swept into the canals. Sample BBDS2 was collected from the west end of the eighth canal (counting north to south). Sample BBDS3 was collected in Building 2 from within a small area enclosed by concrete curbing. Finally, sample BBDS4 was a composite collected from three small floor pits located in Building 3. Again, it appears that sediment accumulation in the building had been swept into these pits. It is from these sediments that the sample was collected.

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The surface water sample (BBDW1) was collected at several locations, directly from the oil separator trench.

The list of parameters for which these samples were analyzed includes:

(1) Polychlorinated Biphenyls (PCB)
(2) Total Petroleum hydrocarbons (TPHC)
(3) Volatile Organic Compounds (VOC) plus 15 unidentified peaks
(4) Metals: As, Ba, Cd, Cr, Pb, Hg, Ag, Se
(5) 129 Priority Pollutants plus 40 unidentified peaks including:
    (a) VOC
    (b) Base Neutral and Acid Extractable Compounds (BN/AE)
    (c) Metals:
        (1) Antimony (Sb)
        (2) Arsenic (As)
        (3) Beryllium (Be)
        (4) Cadmium (Cd)
        (5) Chromium (Cr)
        (6) Copper (Cu)
        (7) Lead (Pb)
        (8) Mercury (Hg)
        (9) Nickel (Ni)
        (10) Silver (Ag)
        (11) Selenium (Se)
        (12) Thallium (Tl)
        (13) Zinc (Zn)
    (d) Phenol
    (e) Cyanide
(6) Dioxin

To verify that Dioxin is not present in soils, one sample, BBD17/0-1', collected in the furnace area, has been analyzed. This sample was chosen for Dioxin analysis because materials still remaining in the drums when received for processing, were removed in this area during the reconditioning process.

1.3 Field Investigation III - November 27 - December 17, 1985

During the third field investigation, four monitoring wells (BBDC1-4) and one monitoring well point (BBDC5) were installed at various locations on site (Figure 2). Wells BBDC1 and BBDC2 were installed as background locations. Well BBDC4 was so located to determine water quality conditions near the furnace residue pile, and well BBDC5 was so located to determine water quality conditions near the oil storage storage tanks. In addition, a deep well, BBDC3, was completed near the oil storage tanks area for the purpose of examining the quality of ground water at depth.

Additional split spoon soil samples were collected from well borings BBDC1-4, during the augering phase of well installation. A total of

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twenty-one soil samples were collected, and analyses were requested on fourteen of the samples (Table I.3). Finally, after installation, the wells were developed using compressed air. Generally speaking, construction of the four monitoring wells is similar. After the initial boring was completed, four inch diameter PVC screen and casing was installed. The anulus was backfilled by pouring sandpack until it filled to a level approximately two feet above the screen. The anulus was then sealed with bentonite. A protective, locking, steel casing was set with cement in the portion of anulus still open. Construction of the deep well (BBDC3) required installation of an eight inch diameter steel casing down to a depth of thirteen feet. This was done to seal off an upper zone of contamination (discussed in more detail later). The well point (Well BBDC5) was constructed using 2½ inch diameter steel screen and casing. Well construction diagrams are presented in Appendix A.

1.4 Field Investigation IV - January 7, 1986

The last field investigation was completed on January 7, 1986. At that time, the four monitoring wells and one well point were redeveloped using a suction pump. A minimum of three well volumes was removed from each well, which was then sampled with a pre-cleaned teflon bailer. All samples were analyzed for VOC's, except for BBDC4, which was analyzed for priority pollutants (Table I.4).

ATTACHMENT B-8

2.0 Site Description and Geologic Conditions

As stated in the DRAI Work Plan, the site covers approximately 20 acres of land located in an industrial area of Newark. The area is characterized by storage tank facilities, rail yards, trucking facilities and used car yards.

Ground surface of the site is approximately ten feet above sea level and slopes downward slightly to the northeast. It is underlain by Pleistocene drift, which fills a buried valley cut into the Brunswick Formation. The Passaic River runs a loop, north of the site, and eventually joins the Hackensack River where it opens into Newark Bay. The River is within a one mile radius of the site.

The property has an elongate shape that trends northeast-southwest (Figure 1). The northern edge of the property is bounded by the Pulaski Skyway, and the southern edge is bounded by the New Jersey Turnpike. The property consists of three main buildings, formerly used in the the drum reconditioning process, and several smaller buildings, used for offices. These facilities are located at the northeast end of the property. The central and southwest portions of the property are characterized, in general, by a black coal-cinder type fill. Approximately one-third of the southwest corner of the property is used for empty drum storage.

Boring log data, accumulated during DRAI field investigations, indicate a slight difference in the type and thickness of the lithologic sequence than was originally stated in the DRAI Work Plan. Lithologic data from borings around the site indicate that there is a black coal-cinder type fill found from surface down to an average depth of ten feet. The location of hydrogeologic cross-sections are displayed on Figure 3. The fill is underlain by a medium to a coarse grained, well sorted sand that ranges in color from brown to red-brown to dark maroon-brown. Observations of the lithology at depth were made while drilling well boring BBDC3 (Figures 4 and 5). As stated above, the fill is underlain by a medium to coarse sand that lies within a depth interval of ten to forty feet. The material observed from forty to fifty feet below surface consists of a dark red-brown, uniform, coarse silt. Below fifty feet, observations of cuttings indicated a gradational zone downward into more consolidated material. Once drilling proceeded beyond fifty feet, small fragments of dark red shale were observed. Drilling continued to a depth of fifty-three feet to confirm these observations. These findings are interpreted as a vertical gradation into the upper zone of weathered Brunswick Shale Formation. Boring logs are presented in Appendix B.

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3.0 Results of Analyses

Due to the volume of data, samples are not always discussed individually. Instead, the data is presented in tables using two formats. The data presented in the first format (Table II) has been categorized numerically by areas, as they are defined in Figure 6.

The concentration listed for a particular parameter (e.g., metals) represents a total of the individual constituents (e.g., Antimony, Arsenic, Barium, etc.) of that parameter. The data presented in Tables III through IX follow the second format. These data are listed chronologically and numerically. In addition, for those parameters having more than one constituent, each constituent and its concentration are listed. Chain of Custody Forms and laboratory data sheets are presented in Appendices C and D, respectively.
In summary, the list of parameters for which soil, surface sediment, surface water, and ground water samples were analyzed includes PCB's, TPHC's, VOC's, Priority Pollutants, Metals, EP-Toxicity, and Dioxin. These parameters were chosen to characterize the site and to establish base line conditions. The results of these analyses were also used to more thoroughly delineate suspected areas of environmental concern. Results, for analyses performed on samples, are discussed below.

3.1 Furnace Residue Pile Area

Forty-two soil samples were collected from the Furnace Residue Pile Area (Figure 2). Thirty-one of these forty-two samples were collected in the immediate vicinity of the furnace residue pile itself. The other eleven samples were collected from other locations within the area. One or more types of analyses, including PCB's, TPHC's, VOC's, a single priority pollutant scan and a single EP-Toxicity, were performed on thirty-four of the forty-two samples collected, and results were reported on all samples (Table II - Furnace Residue Pile Area). Eleven samples, consisting of nine split spoon soil samples (BBD1-9), one surface soil sample (BBD14) and one composite sample (BBD10), were collected during field investigation I. The nine soil samples and Sample BBD14 were analyzed for PCB's. Sample BBD10 is a composite sample which was produced on-site. An equal volume of material was taken from samples BBD2, 5 and 8, mixed on plastic, then containerized. This sample was analyzed for EP-Toxicity.

During Field Investigation II, an additional twenty-one split spoon soil samples were collected from five borings (BBD2, 4, 5, 6 and 7). Sixteen of these twenty-one samples were analyzed for parameters, including PCB's TPHC's, VOC's, and a single sample for priority pollutants. (Note: Some samples collected during Field Investigations I & II possess the same sample number; they are differentiated in the tables, by sampling date.)

The final ten of the forty-two samples are split spoon soil samples collected during field investigation III from well borings BBDC1 and 4, before installation of the wells. Seven of these samples were analyzed for PCB's, TPHC's and VOC's.

Of the eighteen samples analyzed for PCB's, laboratory results indicate that PCB's are present in six of them (Figure 7). Of the twenty-three soil samples analyzed for total petroleum hydrocarbons (TPHC's), TPHC's are present in twenty-two (Figure 8). A volatile organic compound analysis was run on six samples. Results show that four of the samples are contaminated (Figure 9). A priority pollutant scan performed on one sample (BBD4/0-1') revealed the presence of a variety of pollutants, including VOC's, metals, Phenol and Cyanide (Table 10).

3.2 Incoming Drum Storage Area

Eighteen split spoon soil samples were collected from four borings (BBD 9, 12, 13 & 15) during Field Investigation II. These borings are located in an area defined as the Incoming Drum Storage Area (Figure 6). Analyses were requested on fourteen of the eighteen samples. Analyses for PCB's, TPHC's, VOC's, and Metals were performed on thirteen samples. Results indicate that several of these contaminants are present in soils. A PCB analysis was performed on six samples. Four samples, one from each boring location, were found to be contaminated (Table II - Incoming Drum Storage Area). Three samples were analyzed for VOC's, and results show that all are contaminated. Finally, one sample (BBD15/0-1') was analyzed for metals and several constituents were detected.

3.3 Furnace Area

Fourteen samples, consisting of three surface soil, and eleven split spoon soil samples, were collected from the Furnace Area (Figure 2). One or more analyses were requested on thirteen of the fourteen samples collected, and results were reported for ten. Three surface soil samples (BBD 11, 12 and 15) collected during Field Investigation I were analyzed for PCB's. Eleven split spoon samples were collected from three borings (BBD 17, 18 and 19) during Field Investigation II. Results for seven of the eleven soil samples were reported for one or more contaminants including PCB's, TPHC's and VOC's. One sample (BBD17/0-1') was also analyzed for priority pollutants and Dioxin. Laboratory results indicate that PCB's were not present in the three surface soil samples (Table II - Furnace Area). PCB results were reported on the eight samples for which that analysis was requested and was detected in four of the samples. TPHC analysis, performed on seven soil samples, indicated that petroleum hydrocarbons are present in soils. Finally, a priority pollutant scan and an analysis for Dioxin were performed on one sample (BBD17/0-1'). Results indicate that VOC's, base neutral extractables (including Pesticide extractables) compounds, metals, Phenol and Cyanide compounds are also present in soils. Dioxin was not detected.

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3.4 Oil Storage Tank Area

Thirteen samples, consisting of one surface water sample, one surface sediment sample and eleven split spoon soil samples, were collected from the oil storage tank area (Figure 2). Analyses were requested and reported for nine of the samples. Two surface samples (BBDS1 and BBDW1) and two soil samples from Boring BBD16 were collected during Field Investigation II. The remaining seven soil samples, all taken during the augering of well boring BBDC3, were collected during Field Investigation III. Analyses requested for these samples include: PCB's, TPHC's, VOC's, and a Priority Pollutant scan.

Results for these samples indicate that many of the contaminants are present in soils (Table II - Oil Storage Tanks Area). Eight samples were analyzed for PCB's and nine were analyzed for TPHC's. Four samples contain PCB's, while all nine samples contain petroleum hydrocarbons. A volatile organic analysis was performed on five of the nine samples, three of which contained VOC's. Finally, a priority pollutant scan was requested on sample BBD16/5-8' and 8-10'. PCB's and VOC's, reported as part of the priority pollutant scan, have been discussed above. The remaining types of analyses, which complete the priority pollutant analysis, are metals, Phenol and Cyanide. Several metals and Phenol were detected in relatively minor concentrations. Cyanide was not detected.

3.5 Drum Storage and Background Areas

The Drum Storage and Background Areas consist of those sections, between the process buildings and the southern plant boundary, which have not yet been discussed. A total of twenty-one samples, all split spoon soil samples, were collected from seven borings. Nineteen of the twenty-one samples were collected from six borings (BBD1, 3, 8, 10, 11, and 14) during Field Investigation II. The remaining two samples were collected from well boring BBDC2 during Field Investigation III.

Analyses were requested on eighteen samples and reported for seventeen of them. Samples were analyzed for one or more parameters, including PCB's, TPHC's and VOC's (Table II - Drum Storage and Background Areas). A priority pollutant analysis was performed on one sample (BBD14/0-1'). Results indicate that VOC's are not present. However, a total concentration of 250 ppm was reported for metals and a total concentration of 830 ppm was reported for base neutral compounds. Acid extractable compounds, Phenols and Cyanide were not detected. Five samples were analyzed for PCB's. Four of the five samples contain PCB's at a detectable concentration. All twenty-one samples were analyzed for TPHC's. Results indicate that all samples contained a detectable concentration of petroleum hydrocarbons.

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3.6 Buildings

Three sediment samples (BBDS2-4) were collected, one each, from the three reconditioning buildings. Sample BBDS2 was analyzed for PCB's and VOC's, sample BBDS3 was analyzed for TPHC's and sample BBDS4 was analyzed for PCB's, TPHC's and VOC's. PCB's were detected in samples BBDS2 and BBDS4 at 80 and 11.1 ppm, respectively. Petroleum hydrocarbons were detected in samples BBDS3 and BBDS4 at 850 and 39,400 ppm, respectively, and concentrations of 84 parts per billion (ppb) was reported for sample BBDS4. Finally, volatile organics were detected in sample BBDS4 at 84 ppb.

3.7 Ground Water

A total of six samples, five ground water samples and one field blank, were analyzed (Table VIII). The field blank was made up of store-bought spring water. The types of analyses performed on the samples, with the exception of BBDC4, included PCB's, TPHC's and VOC's. Sample BBDC4 was analyzed for priority pollutants.

PCB's were detected, in a concentration of 53 ppb, in sample BBDC5. In addition, the laboratory filtered the sediment out of the sample and analyzed the sediment. A concentration of 80 ppm was reported. PCB's were not detected in any other samples. All of the ground water samples, except BBDC4, were analyzed for TPHC's. Concentrations found in samples BBDC1, 2, 3 and 6 are 2.8, 3.7, 4.8 and 1.8 ppm, respectively. The concentration in sample BBDC5, taken in the old storage tank area, was reported at 2,000 ppm. The remaining analyses were performed on sample BBDC4 as part of the priority pollutant scan. No metals were found in any significant concentrations. Although several metals were detected, all were, at, or just above, the threshold detection limit. A total concentration of 42 ppb was reported for base neutral compounds, and acid extractable compounds, Phenol and Cyanide, were not detected.

4.0 Areas of Environmental Concern

For the purpose of defining areas of environmental concern, the property has been geographically subdivided into six major areas, based on usage, land ownership, and future potential land utilization (Figure 6). These areas are:

I. Furnace Residue Pile Area
II. Incoming Drum Storage Area
III. Furnace Area
IV. Oil Storage Tank Area
V. Drum Storage and Background Area
VI. Drum Storage and Background Area (BBD3 & 8)
VII. Buildings

Activities performed in each area are discussed below in detail.

4.1 Furnace Residue Pile Area - Area I

The furnace residue pile area has been defined by two features. First, the waste residues generated during the drum cleaning process were disposed of on the furnace residue pile, which is located in this area (Figure 6); and, second, this portion of the property is owned by the principal of Bayonne Barrel & Drum Company. In addition, the remaining portion of this area is used for empty drum storage. Results of laboratory analyses indicate that a wide variety of contaminants, including PCB's, TPHC's, VOC's and metals, are present in significant concentrations in the furnace residue pile area.

4.2 Incoming Drum Storage Area - Area II

The incoming drum storage area is defined as the area which extends from the plant buildings to immediately south of the furnace area (Figure 6). This area was utilized as the first stage in reconditioning for the drums about to enter the furnace. Significant concentrations of each of four types of contaminants, PCB's, TPHC's, VOC's and metals, were found within this area.

4.3 Furnace Area - Area III

The furnace area is an enclosure created by the three main plant buildings (Figure 6). The furnace, itself, is situated here with a conveyor that passed from the incoming drum storage area, through the furnace, into a drum reconditioning building (Bldg. 2), where the process was completed. A recovery pit, rectangular in shape and perpendicular to the conveyor, was situated beneath the exit port of the furnace. Furnace residue type materials were observed on the ground, adjacent to the northwest side of the furnace. Analytical results revealed the presence of many contaminants. Constituents found included PCB's, TPHC's, VOC's, metals, base neutral compounds and Phenols.

4.4 Oil Storage Tank Area Area IV

The oil storage tank area is located east of the main plant buildings,

on the side closest to the New Jersey Turnpike (Figure 6). One tank (Figure 2) was used for storage of oil which had been liberated during the firing of incoming drums in the furnace area. Only one was observed by DRAI to be directly associated with the oil recovery system. Prior use of the remaining two tanks is unknown. There is also a trench which carried fluids, generated in the furnace area, to the oil separator area and a single underground tank located at the northern terminus of the trench. The exact volume of the tank is unknown. (Several inquiries, combined with information on file, have yielded several different answers.) However, using surface measurements, DRAI has estimated the volume to be 1,000 gallons.

Observations of the subsurface conditions, during the augering phase of borings BBD16, BBD3 & BBD5, revealed a zone of material, between three and nine feet, which appeared to be saturated with oil. Soils in this zone were very soft and fluid-like and offered little resistance when split spoons were actually driven.

The analytical results for samples collected in this area indicated that many contaminants are present in soils. PCB's and TPHC's were found at relatively high concentrations (Table II - Oil Storage Tanks Area). VOC's were detected, as were minor concentrations of metals and Phenol.

4.5 Drum Storage and Background Areas - Areas V & VI

The drum storage area encompasses those areas, between the furnace residue pile area and the main plant buildings, which have not been previously categorized (Figure 6). This area is actually divided into a northern and southern half. The division has been based on a knowledge of the prospects for land use in the future. Specifically, the Department of Transportation wishes to acquire the southern half of the property (Area V - south) to be used for transportation purposes.

These areas are characterized by a black, coal-cinder type of surface fill to a depth of approximately ten feet below surface (Figures 4 and 5). The areas are used primarily for storage of empty drums, and as lanes for vehicular traffic. Three types of pollutants, petroleum hydrocarbons, VOC's, and metals, were detected in soils within Area V. Petroleum hydrocarbons were found in all of the samples. Metals were detected in three samples, BBD8, 11 and 14. Volatile organics were detected in two of five samples analyzed for VOC's (both from well boring BBDC2).

4.6 Buildings

Three surface sediment samples (BBDS2, 3 and 4) were collected, one each, from the three main buildings surrounding the furnace area (Figure 6). Three types of analyses, PCB's, TPHC's and VOC's, were performed for the purpose of detecting contaminants in the interiors of the buildings. Results indicate that all three parameters are present in significant concentrations.

ATTACHMENT B-15

5.0 Summary of Findings

5.1 Soil and Sediment Quality

Soil samples, sediment samples, one surface water sample and five ground water samples were analyzed for a variety of parameters including PCB's, TPHC's, and VOC's. Four samples, each from a different area, were submitted for analysis of 129 Priority Pollutants plus 40 largest peaks (PP+40). A PP+40 scan includes VOC's, PCB's, Metals, Acid Extractables and Base/Neutrals Extractable Compounds, and four pesticides and two herbicides. One soil sample was submitted for analysis of Dioxin.

Analytical results for all parameters, except metals, are presented chronologically by area in Table II. This table was included to facilitate the review of results by area. Results of analyses for PCB's and total petroleum hydrocarbons (TPHC) are listed in Table III. Virtually all soil samples collected were analyzed for TPHC's. Only one sample was analyzed for Dioxin (Table III). Volatile organic compound (VOC) analyses results for both "priority" and non-priority" compounds are found on Table IV. Concentrations for inorganic parameters (metals, phenol, cyanide and pesticides) are presented in Table V. Concentrations for Base/Neutral - Pesticide extractable and acid extractable compounds are included on Table VI. Finally, results of analyses for PCB, TPHC, and VOC concentrations in surface sediment and water samples are presented on Table VII.

An unusual occurance appears to be present in the Oil Storage Tank area, which is unique to this location of the facility. During drilling operations an anomalously high water table was encountered. In addition, at the time of drilling, soils in this area possessed more fluid-like characteristics due to an abnormally high liquid content. This was observed in soils down to a depth of approximately 5 to 8 feet below surface. Concentrations for a variety of parameters reported for one ground water sample (BBDC5) and several soil samples collected in this area were consistantly higher than concentrations found in other areas. The furnace area is the only area which exhibits higher concentrations for several contaminants; specifically, concentrations of PCB's and VOC's are slightly higher. This is most likely a result of the fact that the furnace area is, in essence, the source area since the furnace area is the first location in which materials brought on site are liberated from drums. The liquid materials are then transferred to the Oil Storage Tank area for storage in above and below ground tanks, via a channel which connects both areas. The concentration for TPHC's is highest in the Oil Storage area. Although the initial source of these liquids may be the furnace area, the oils captured during drum firing are stored, in volume, in the Oil Storage Tank area thus creating a new primary source.

Polychlorinated Biphenyls. In general, results for PCB analyses indicate that this contaminant is distributed throughout the site. Concentrations reported, range from "not detected" at 1 part per million (ppm), to 320 ppm. The highest concentrations are found in the furnance and oil storage tank areas. Fluids, generated as a result of drum firing operations in the furnace area were pumped via a drainage channel into the storage tanks. Therefore, the relatively high concentration found in the storage tank area is substantiated by the fact that these materials have been readily transferred into the tanks area. PCB's were also detected in soils located in the incoming drum storage area, the furnace residue pile, and the drum storage and background areas.

A comparison of results obtained from duplicate analyses of samples performed by the laboratory, indicates a high degree of correlation in both compound identification and concentrations. The correlation between one sample (BBD17/1') a field duplicate of it (BBD17/S), collected in the furnace area, does indicate some disparity. However, in our opinion, this is a result of the method used to collect the duplicate. The two samples, the original and the duplicate, were collected by driving two separate split spoon samplers into the ground. The spoon sample locations were within a one to two foot distance of each other, but the soil samples can not be considered as typical duplicates since they were not from the same sample. Instead, each sample was collected separately, one from each spoon sample recovered.

Total Petroleum Hydrocarbons. With respect to total petroleum hydrocarbons, all soil samples collected during the field investigations of October and November 1985, and submitted to the laboratory, were analyzed for TPHC's. Concentrations found in samples collected from the surface to a depth of ten feet, all exceed the maximum permissible concentration allowed in soils. With the exception of one sample, BBDC1/10-12' (410 ppm), the concentration of TPHC's in all samples collected below a depth of ten feet were below the maximum permissible concentration for TPHC's in soil.

When reviewing these results, it should be noted that this property was used as a disposal area for coal and ash. These materials were an end product of a coal-burning, electric power generating station operating in the area. A review of Figures 4 and 5 reveals that the depth of this coal-ash fill is approximately ten feet and exists as the uppermost layer, from the surface down to a depth of ten feet.

For reasons as explained in the discussion of PCB's, TPHC results for sample BBD17/1' and its duplicate BBD17/S display some disparity; however, results for duplicate analyses performed by the laboratory exhibit a high degree of correlation.

ATTACHMENT B-17

Volatile Organic Compounds. In general, volatile organic compounds in soils for priority and non-priority constituents were limited to specific areas only. VOC concentrations are significant in soils found in the incoming drum storage, furnace, oil storage tank and furnace residue pile areas, whereas results for soils analyzed outside the specified boundaries of these areas indicate that VOC's were not even present in detectable concentrations. Priority VOC's were detected in a range from "not detected" at 20 ppb to 22,553 ppb, and non-priority VOC's were detected in a range from "not detected" at 20 ppb to 66,035 ppb. The appearance of VOC's in soils is, in general, restricted to those areas in which materials handled and liberated in the process of reconditioning drums are most likely to be found. Thus, a noticeable distinction is present between contaminated and uncontaminated soils. Only one sample, (BBDC1/5-7'), collected outside any of the above named areas, contain significant concentrations of VOC's with reported values of 27.0 ppb and 2,160 ppb for priority and non-priority VOC's, respectively. VOC concentrations were found mostly within two depth intervals, 0-1' and 5-7', and where present in depths below seven feet, did not exceed the maximum permissible concentration allowed in soils.

One surface water and two surface sediment samples were analyzed for VOC's. VOC's were detected in one of the samples; however, concentrations do not exceed the maximum permissible concentration allowed in soils.

Inorganic Parameters. With respect to inorganic parameters, including metals, phenol and cyanide, some contaminants are present. Results for these parameters were generated as part of a PP+40 scan requested on four soil samples (BBD4/1', BBD14/1', BBD16/5-8 & 8-10' and BBD17/1'), one each from four different areas of the facility. Metals were found in a range of concentrations from "Not detected" for Thallium, to 15,500 ppm for Copper. The highest concentrations were found in the furnace and furnace residue pile areas. Metals showing the highest concentrations include Cadmium, Chromium, Copper, Lead and Zinc. Concentrations for these metals in the remaining two areas, in which the analyses were requested (Oil Storage Tank and Background), are substantially less. The remaining metals for which soils were analyzed were either not present, or present in relatively lower concentrations.

Phenol was detected in three of the four areas. Concentrations range between ND0.5 to 20 ppm. Phenol was detected in the furnace, furnace residue pile and oil storage tank areas. Phenol was not detected in a Background area.

Finally, Cyanide was reported in a range of concentrations from ND0.1 to 2 ppm in the furnace and furnace residue pile areas.

ATTACHMENT B-18

Base/Neutral and Acid Extractable Compounds. B/N, AE analysis was requested on four samples (as listed "Inorganic parameters). The soils are generally clean with respect to these compounds. Concentrations for base neutrals were reported in a range from ND9.5 to 850 ppm. Acid Extractable compounds were not detected.

5.2 Ground Water

Polychlorinated Biphenyls. A PCB analysis was requested for four of the five ground water samples including BBDC1, 2, 3 and 5. Contamination was detected in Well BBDC5 only, in the oil storage tank area, at a concentration of 53 ppb. Results of an analysis performed on sediments which were separated, from the water sample, by the laboratory, indicate that they also contain PCB's at a concentration of 80 ppm.

Total Petroleum Hydrocarbons. A TPHC analysis was requested on four (same as listed above) of the five ground water samples. The range of concentrations reported extends from 2.8 to 2,000 ppm. Concentrations for samples BBDC1, BBDC2, BBDC3 and BBDC5 were 2.8, 3.7, 4.8 and 2,000, respectively. A detectable concentration for TPHC's was reported (1.8) ppm) in the trip blank. As a result, the values reported for BBDC1-3, (2.8, 3.7 and 4.8 ppm) that are of the same magnitude, are questionable. However, since the results reported for sample BBDC5 are three times greater in magnitude, this is a positive indication that contamination is present in the sample.

Volatile Organic Compounds. VOC's were detected in all five ground water samples. However, there is a distinct difference between the total priority and non-priority concentrations reported for water sample BBDC5 when compared to the values reported for the remaining four ground water samples. For the priority VOC's, values were reported between "not detected" and 1,353 ppb. The range of values reported for non-priority VOC's falls between "none-detected" and 4,620 ppb. The total concentration reported in well BBDC5 for each set of parameters, priority and non-priority VOC's, exceeds the maximum allowable concentration for VOC's in ground water. For concentrations reported in the remaining four wells, BBDC1, 2, 3 and 4, the combined sum of priority and non-priority VOC's concentrations found in each does not exceed the maximum allowable concentration for VOC's in ground water.

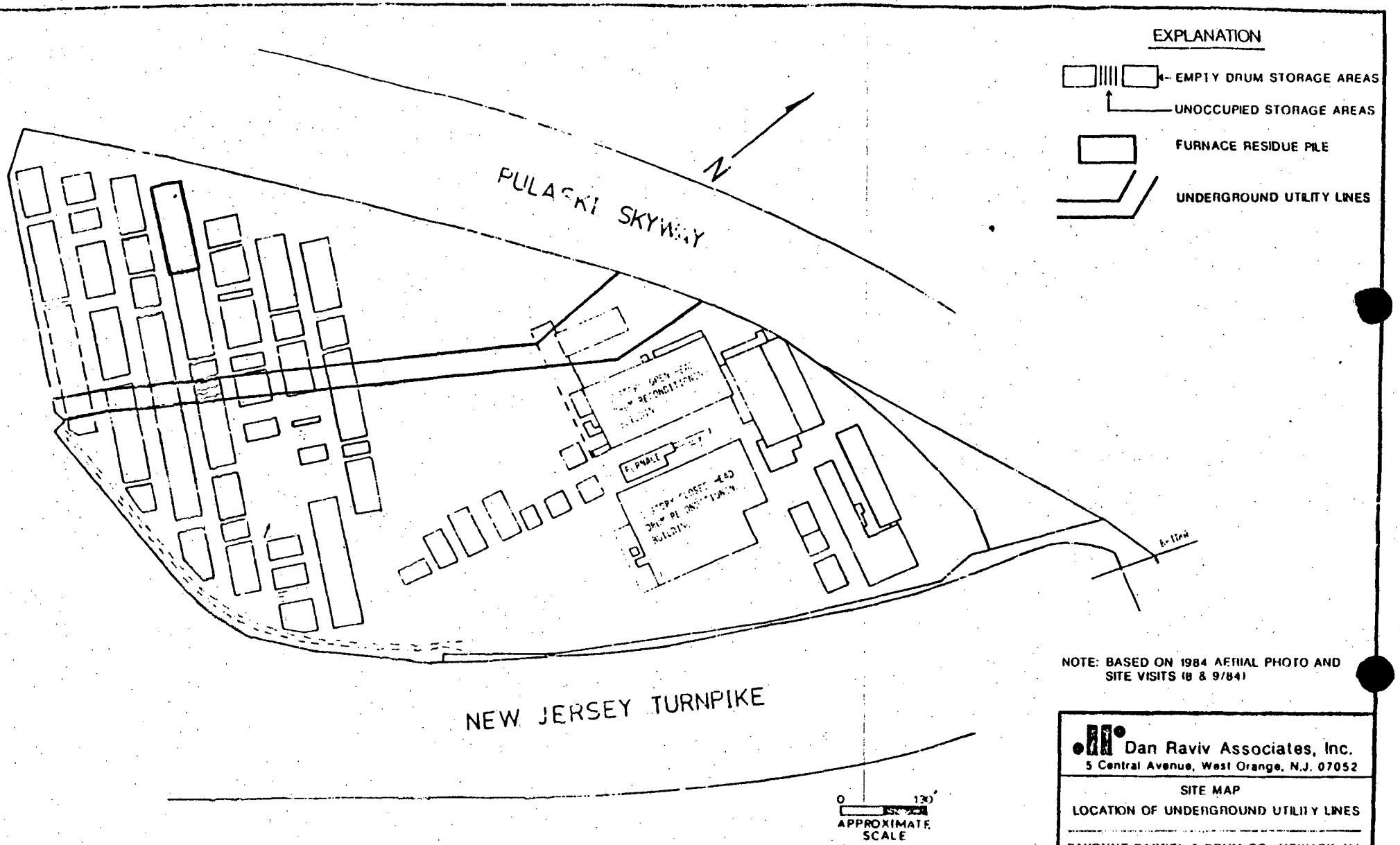
Inorganic Parameters. The inorganic parameters including metals, phenol and cyanide were requested as part of a PP+40 analysis requested on ground water sample BBDC4. With respect to these parameters, ground water was clean. Concentrations reported for all metals were reported as "not detected" or at or very close to the method detection limit, for each metal, in ground water. Both phenol and cyanide were "not detected".

ATTACHMENT B-19

Base/Neutral and Acid Extractable Compounds. B/N and AE compound analyses were also reported as part of the PP+40 scan requested on water sample BBDC4. The sum total concentration of B/N compounds reported is 42 ppb while AE compounds were "not detected".

Dioxin. One sample BBD17/1', taken from the furnace area, was submitted for analysis of Dioxin. A concentration of "not-detected" at a method detection limit of 0.320 ppb was reported.

ATTACHMENT B-20



NOTE: BASED ON 1984 AERIAL PHOTO AND SITE VISITS (8 & 9/84)

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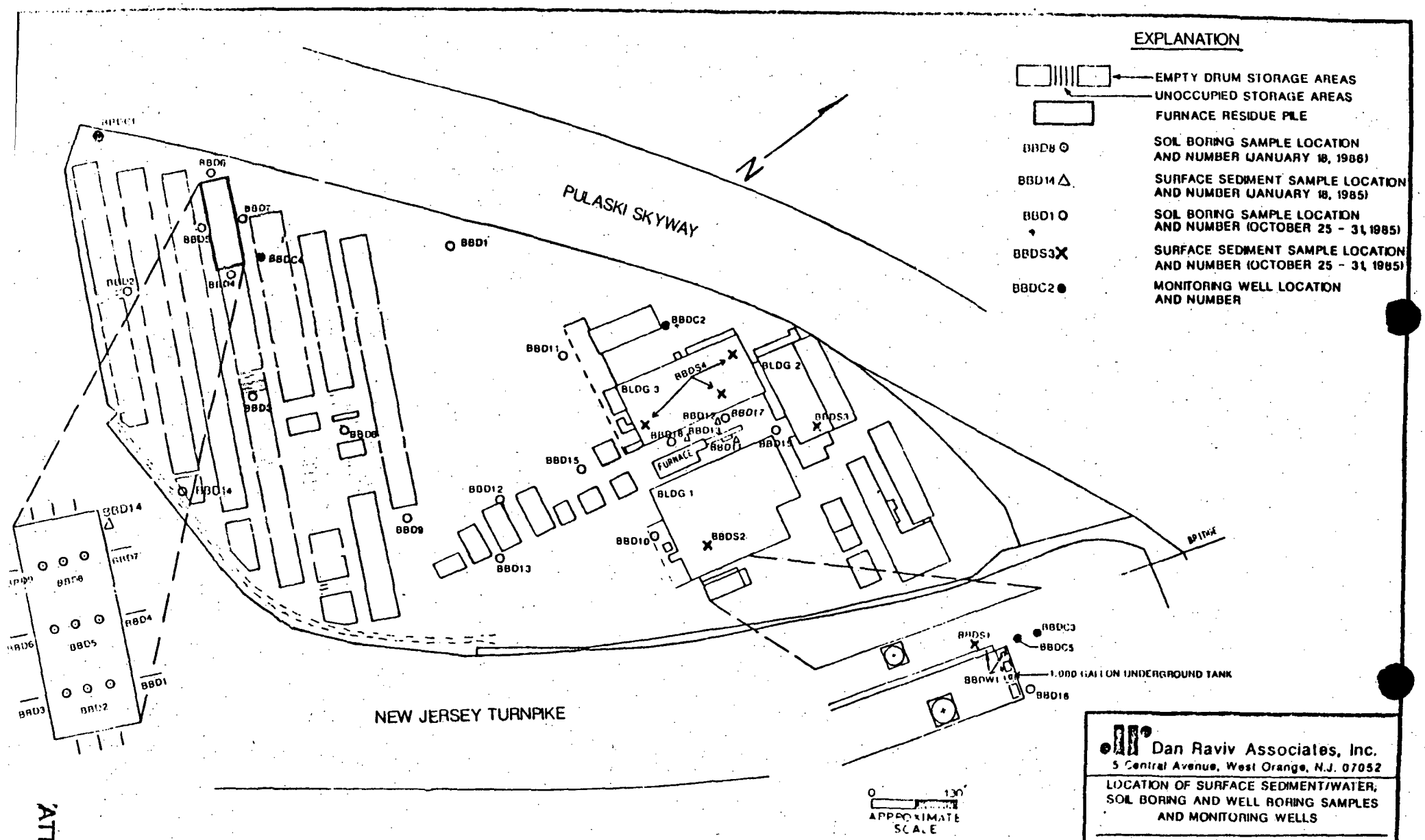
SITE MAP
LOCATION OF UNDERGROUND UTILITY LINES

BAYONNE BARREL & DRUM CO-NEWARK, NJ

Prepared By MZ/BJP	Date APRIL, 1986
Job No. 84C182	Figure 1

B-21



NOTE: SURFACE WATER SAMPLE BBDW1 WAS TAKEN FROM OIL SEPARATOR TRENCH AND TANK VENTS (AS SHOWN)

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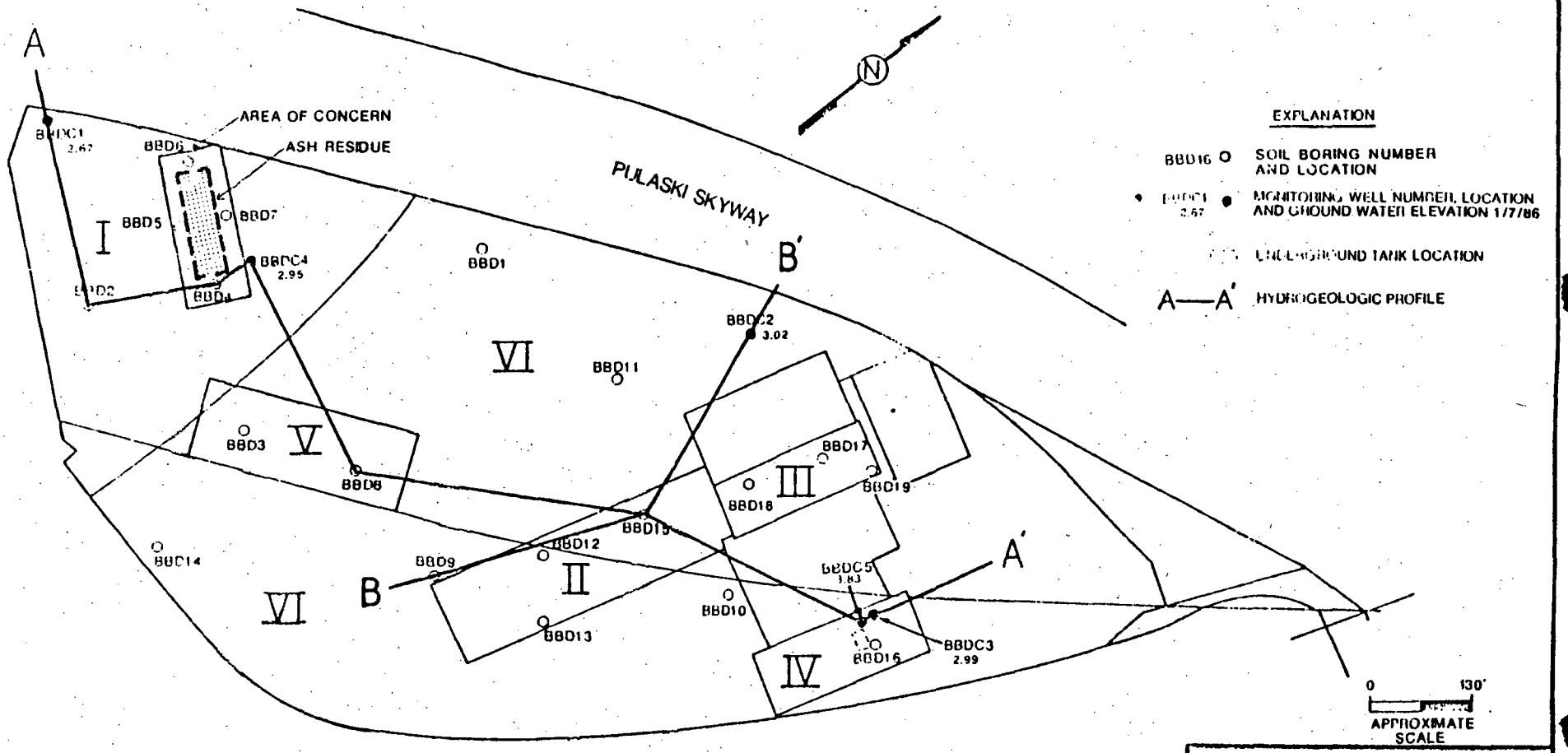
LOCATION OF SURFACE SEDIMENT/WATER, SOIL BORING AND WELL BORING SAMPLES AND MONITORING WELLS

BAYONNE BARREL & DRUM CO - NEWARK, NJ

Prepared By MZ/BJR	Date APRIL, 1986
Job No. 84C102	Figure 2

ATTACHMENT



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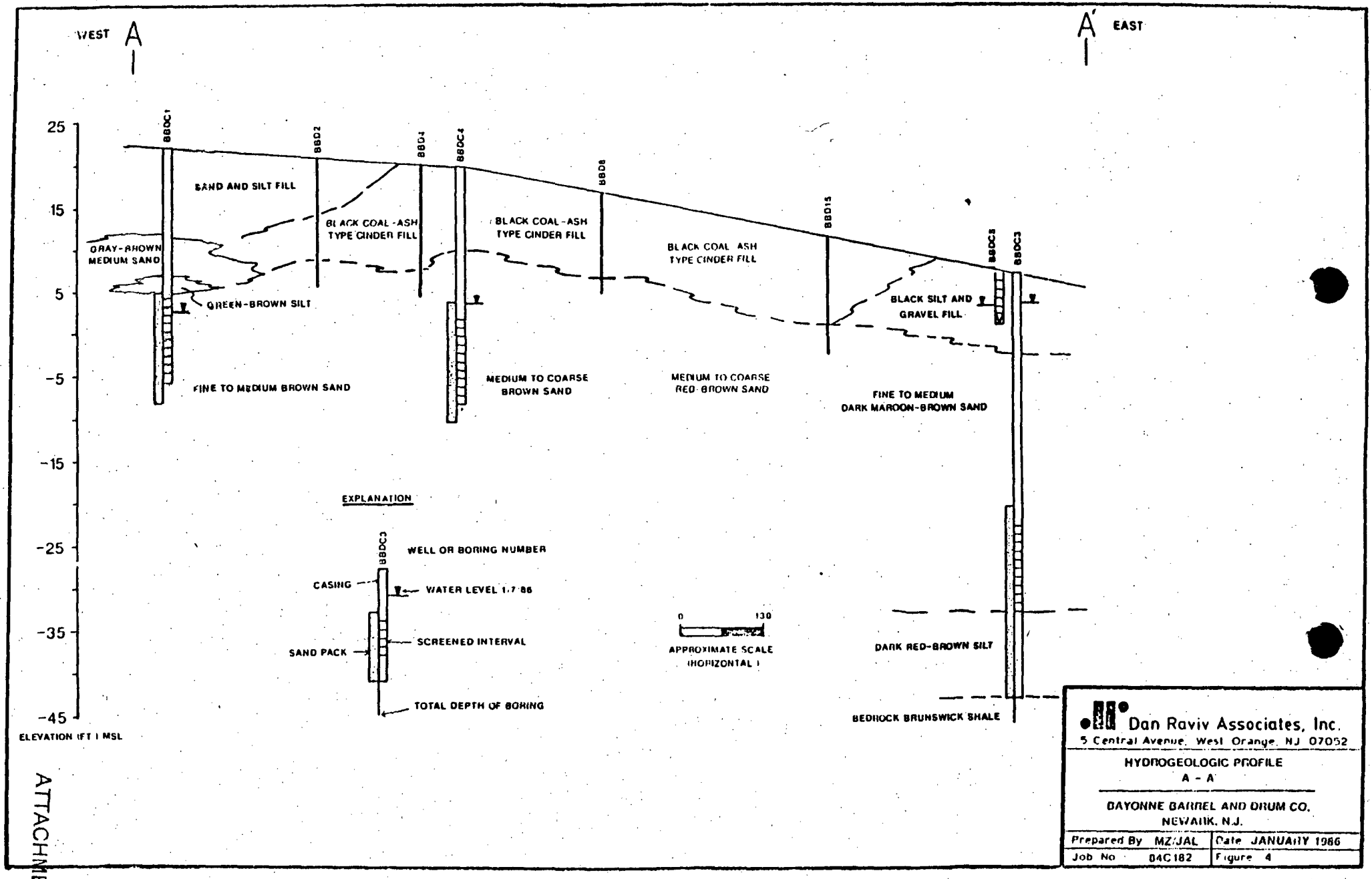
LOCATION OF HYDROGEOLOGIC PROFILES

BAYONNE BARREL & DRUM CO - NEWARK, N.J.

MZ/JAL	Date MARCH,1986
840.102	Figure 3

ATTACHMENT B-23



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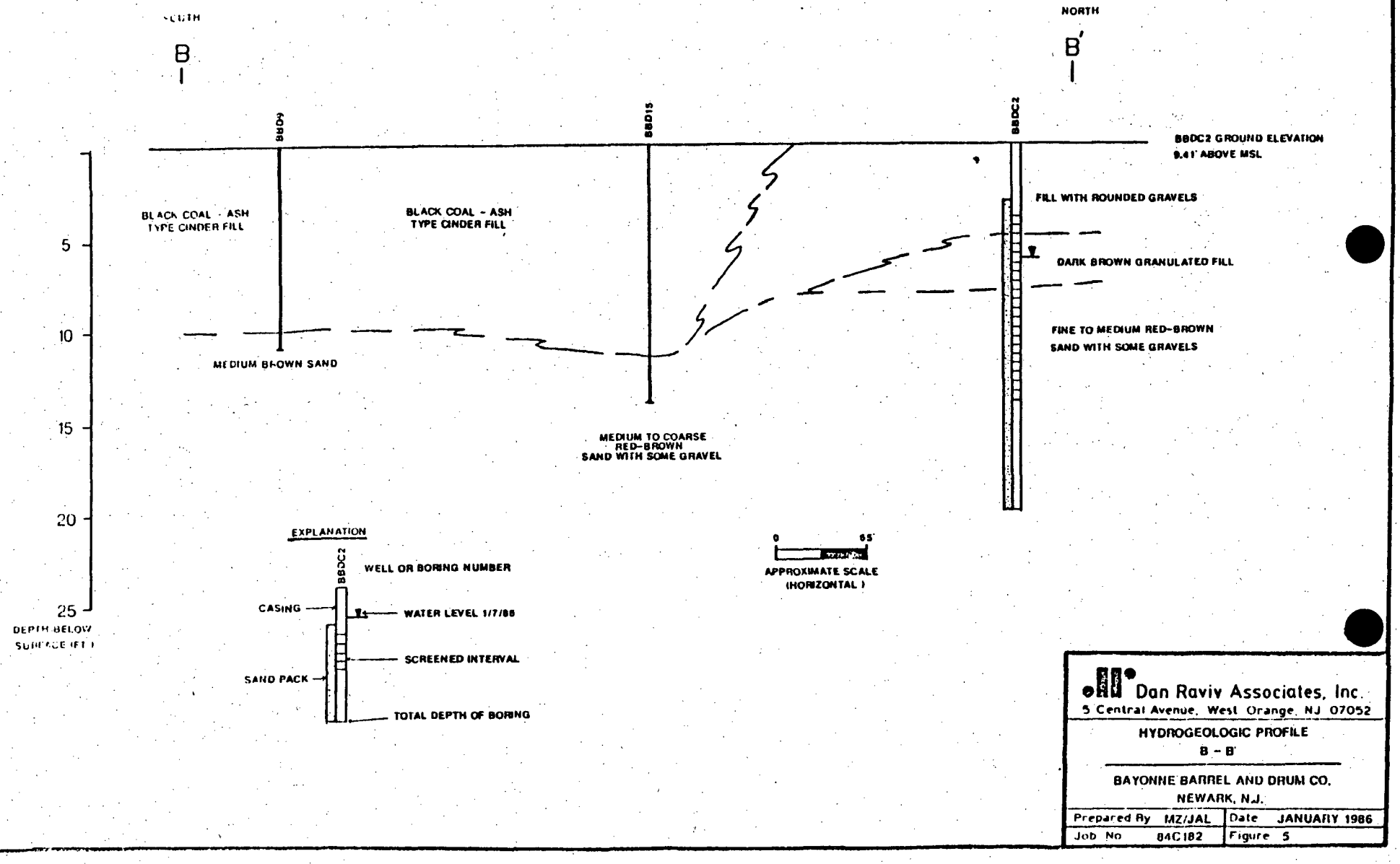
HYDROGEOLOGIC PROFILE
A - A'

BAYONNE BARREL AND DRUM CO.
NEWARK, N.J.

Prepared By MZ/JAL	Date JANUARY 1986
Job No. 84C182	Figure 4

ATTACHMENT B-24



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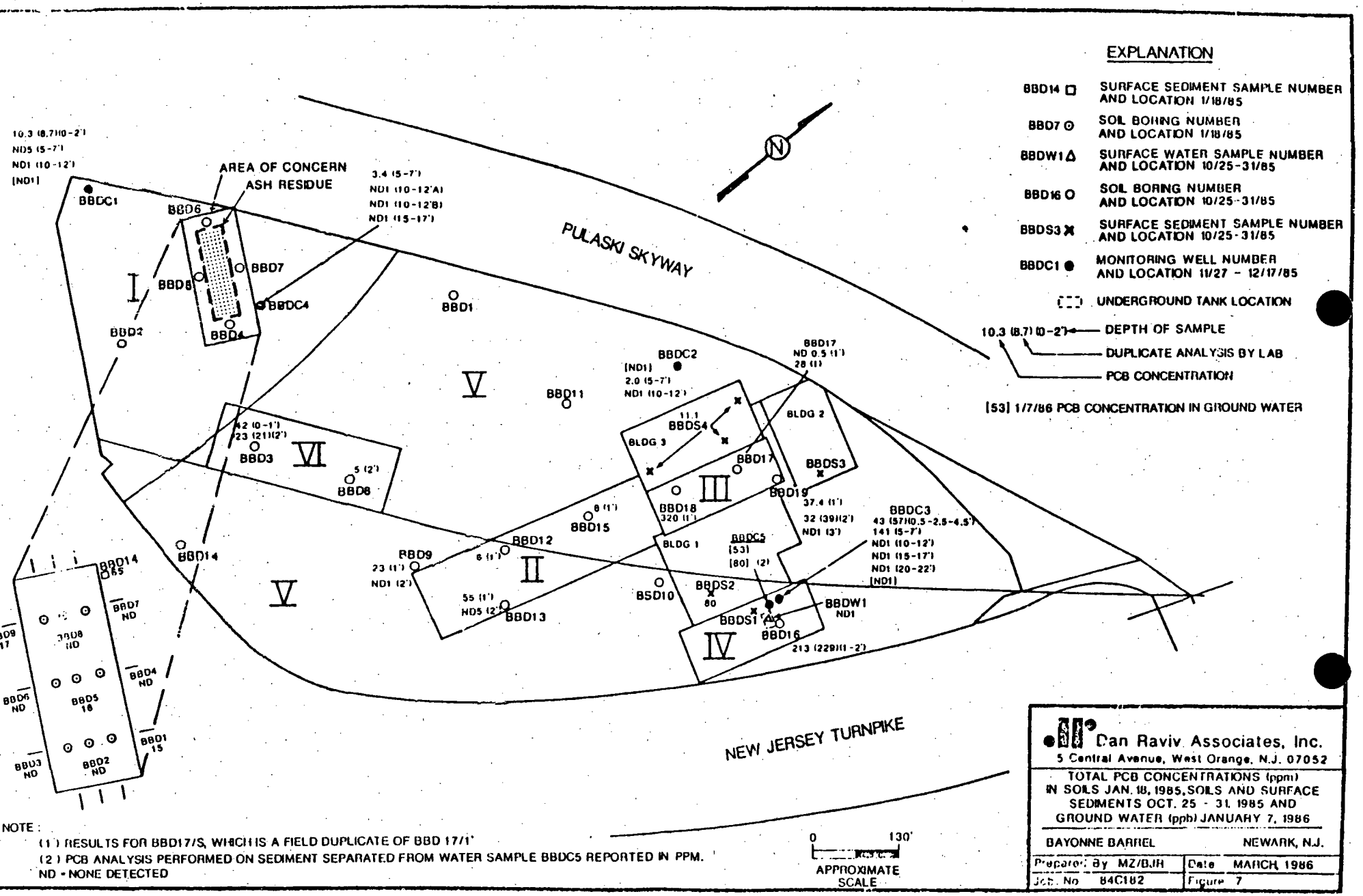
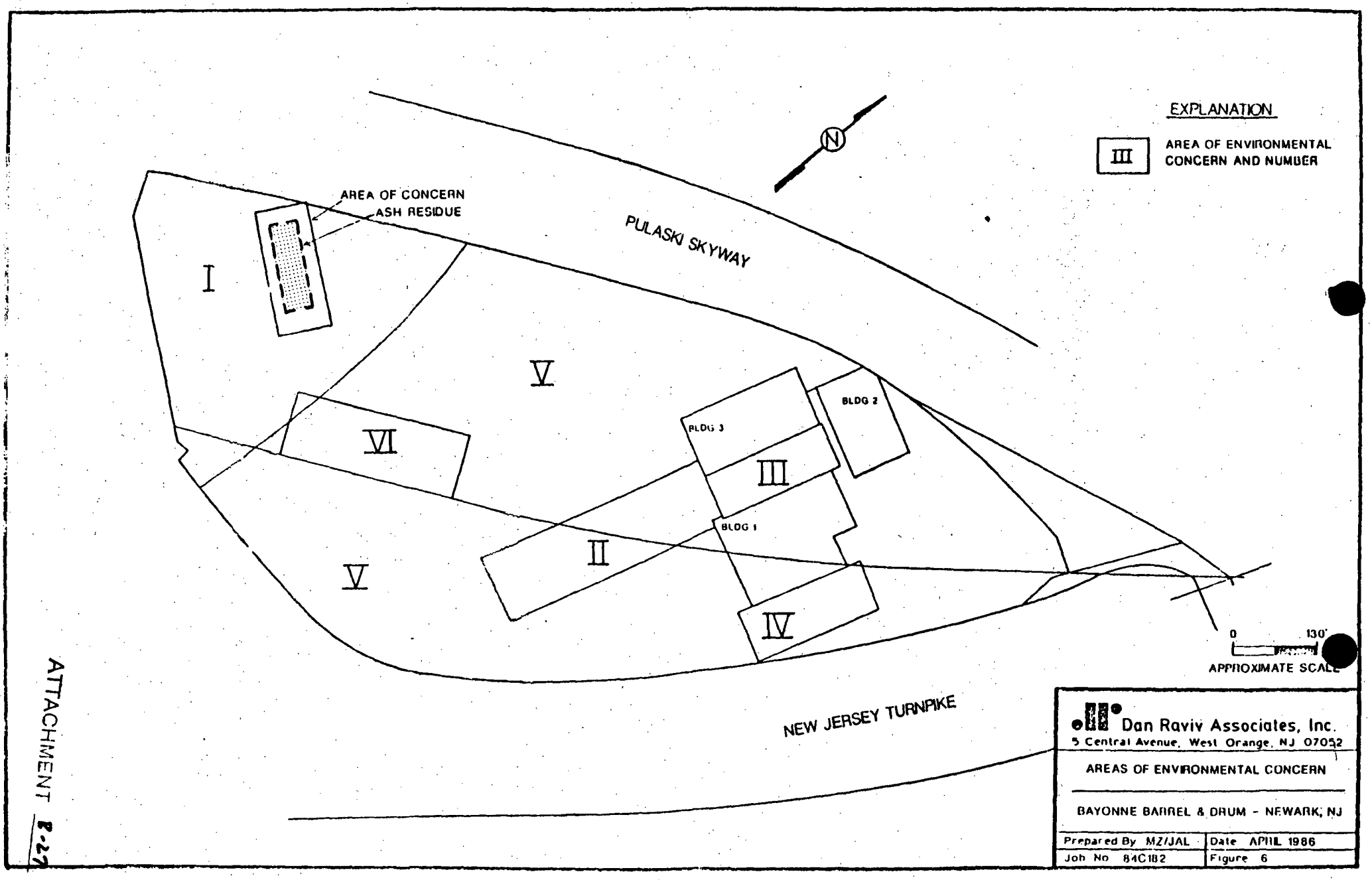
HYDROGEOLOGIC PROFILE
B - B'

BAYONNE BARREL AND DRUM CO.
NEWARK, N.J.

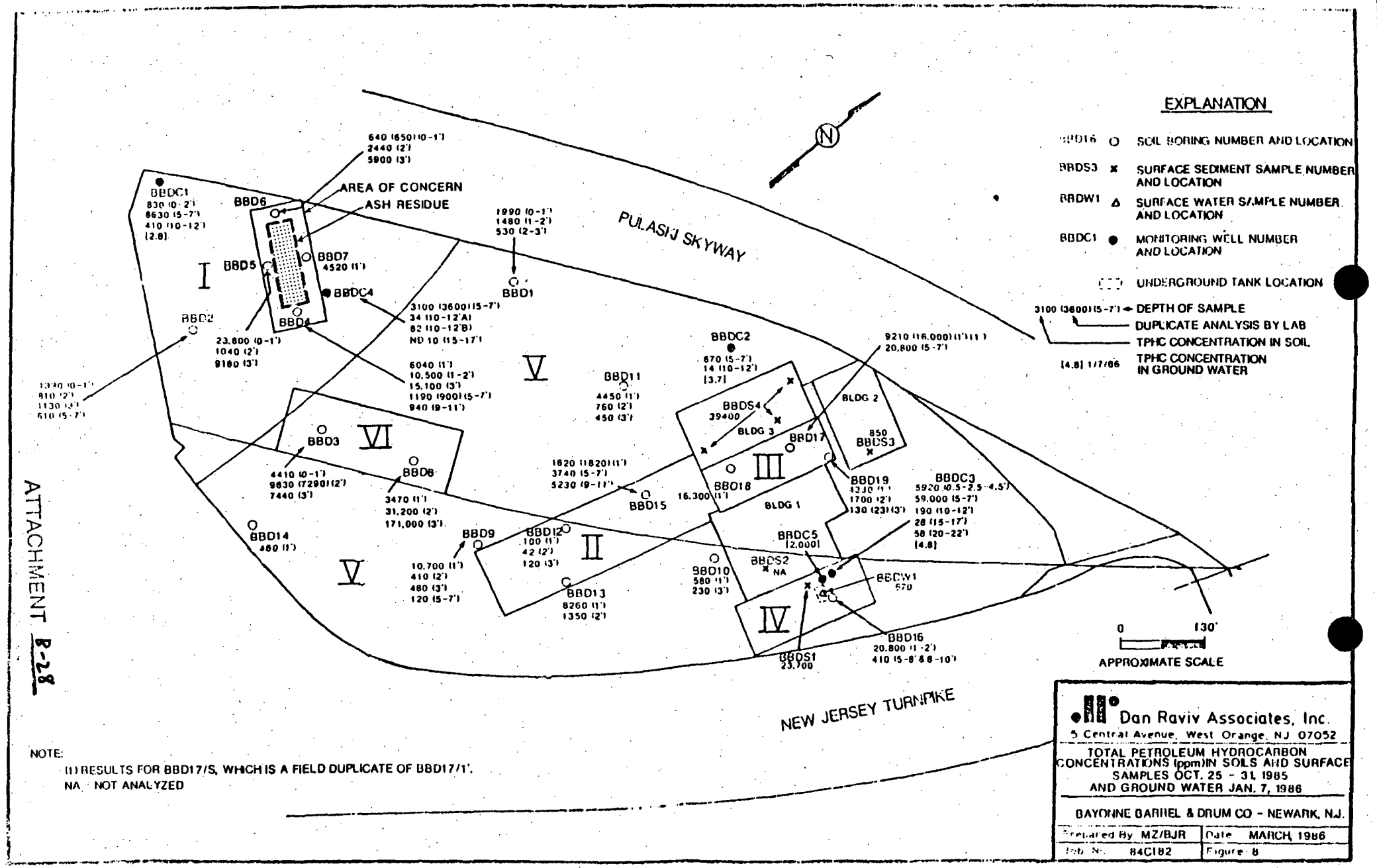
Prepared By MZ/JAL	Date JANUARY 1986
Job No 84C182	Figure 5

ATTACHMENT B-25


EXPLANATION
BBD14 SURFACE SEDIMENT SAMPLE NUMBER AND LOCATION 1/18/85
BBD7 SOIL BORING NUMBER AND LOCATION 1/18/85
BBDW1 SURFACE WATER SAMPLE NUMBER AND LOCATION 10/25-31/85
BBD16 SOIL BORING NUMBER AND LOCATION 10/25-31/85
BBDS3 SURFACE SEDIMENT SAMPLE NUMBER AND LOCATION 10/25-31/85
BBDC1 MONITORING WELL NUMBER AND LOCATION 11/27 - 12/17/85
UNDERGROUND TANK LOCATION
10.3 (8.7)(0-2') DEPTH OF SAMPLE
DUPLICATE ANALYSIS BY LAB
PCB CONCENTRATION
[53] 1/7/86 PCB CONCENTRATION IN GROUND WATER
AREA OF CONCERN
ASH RESIDUE
PULASKI SKYWAY
NEW JERSEY TURNPIKE
BLDG 1
BLDG 2
BLDG 3
I
II
III
IV
V
VI
BBDC1
BBDC2
BBDC3
BBDC4
BBDC5
BBD1
BBD2
BBD3
BBD4
BBD5
BBD6
BBD7
BBD8
BBD9
BBD10
BBD11
BBD12
BBD13
BBD14
BBD15
BBD16
BBD17
BBD18
BBD19
BBDS2
BBDS3
BBDS4
BBDW1
10.3 (8.7)(0-2')
ND5 (5-7')
ND1 (10-12')
(ND1)
3.4 (5-7')
ND1 (10-12'A)
ND1 (10-12'B)
ND1 (15-17')
ND1
2.0 (5-7')
ND1 (10-12')
BBD17
ND 0.5 (1')
28 (1')
11.1
42 (0-1')
23 (2')(2')
5 (2')
8 (1')
320 (1')
37.4 (1')
32 (39)(2')
ND1 (3')
43 (57)(0.5-2.5-4.5')
141 (5-7')
ND1 (10-12')
ND1 (15-17')
ND1 (20-22')
(ND1)
(53)
(80) (2)
80
23 (1')
ND1 (2')
55 (1')
ND5 (2')
213 (229)(1-2')
ATTACHMENT B-26
NOTE:
(1) RESULTS FOR BBD17/S, WHICH IS A FIELD DUPLICATE OF BBD 17/1'
(2) PCB ANALYSIS PERFORMED ON SEDIMENT SEPARATED FROM WATER SAMPLE BBDC5 REPORTED IN PPM.
ND - NONE DETECTED
0
130'
APPROXIMATE SCALE
Dan Raviv Associates, Inc.
5 Central Avenue, West Orange, N.J. 07052
TOTAL PCB CONCENTRATIONS (ppm) IN SOILS JAN. 18, 1985, SOILS AND SURFACE SEDIMENTS OCT. 25 - 31, 1985 AND GROUND WATER (ppb) JANUARY 7, 1986
BAYONNE BARREL
NEWARK, N.J.
Prepared By MZ/BJH
Date MARCH 1986
Job No 84C182
Figure 7



ATTACHMENT B-27



NOTE:

(1) RESULTS FOR BBD17/S, WHICH IS A FIELD DUPLICATE OF BBD17/1'.
NA NOT ANALYZED

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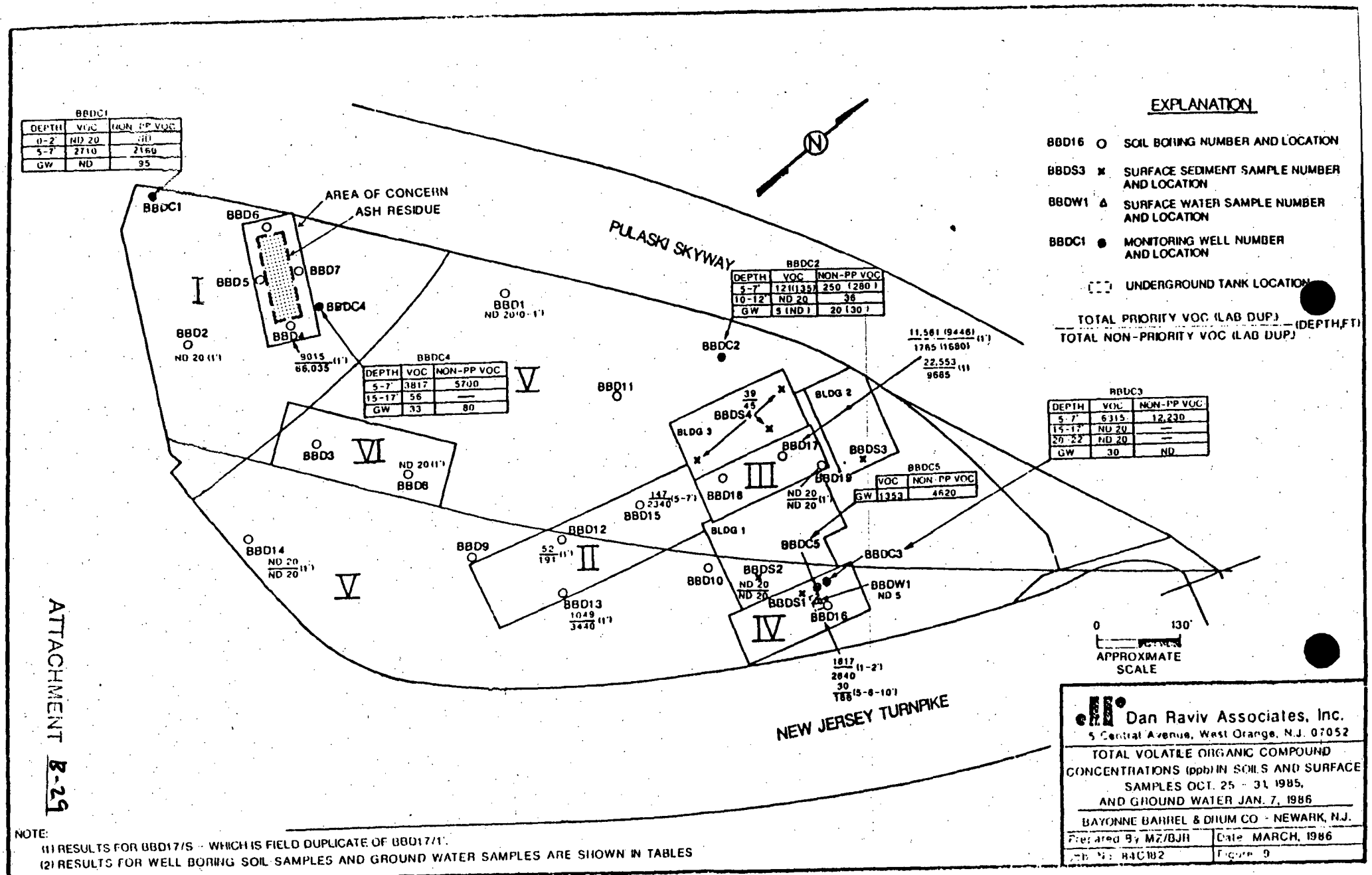
TOTAL PETROLEUM HYDROCARBON CONCENTRATIONS (ppm) IN SOILS AND SURFACE SAMPLES OCT. 25 - 31, 1985 AND GROUND WATER JAN. 7, 1986

BAYONNE BARREL & DRUM CO - NEWARK, N.J.

Prepared By MZ/BJR	Date MARCH, 1986
Job No. 84C182	Figure 8

ATTACHMENT B-28



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TOTAL VOLATILE ORGANIC COMPOUND CONCENTRATIONS (ppb) IN SOILS AND SURFACE SAMPLES OCT. 25 - 31, 1985, AND GROUND WATER JAN. 7, 1986

BAYONNE BARREL & DRUM CO - NEWARK, N.J.

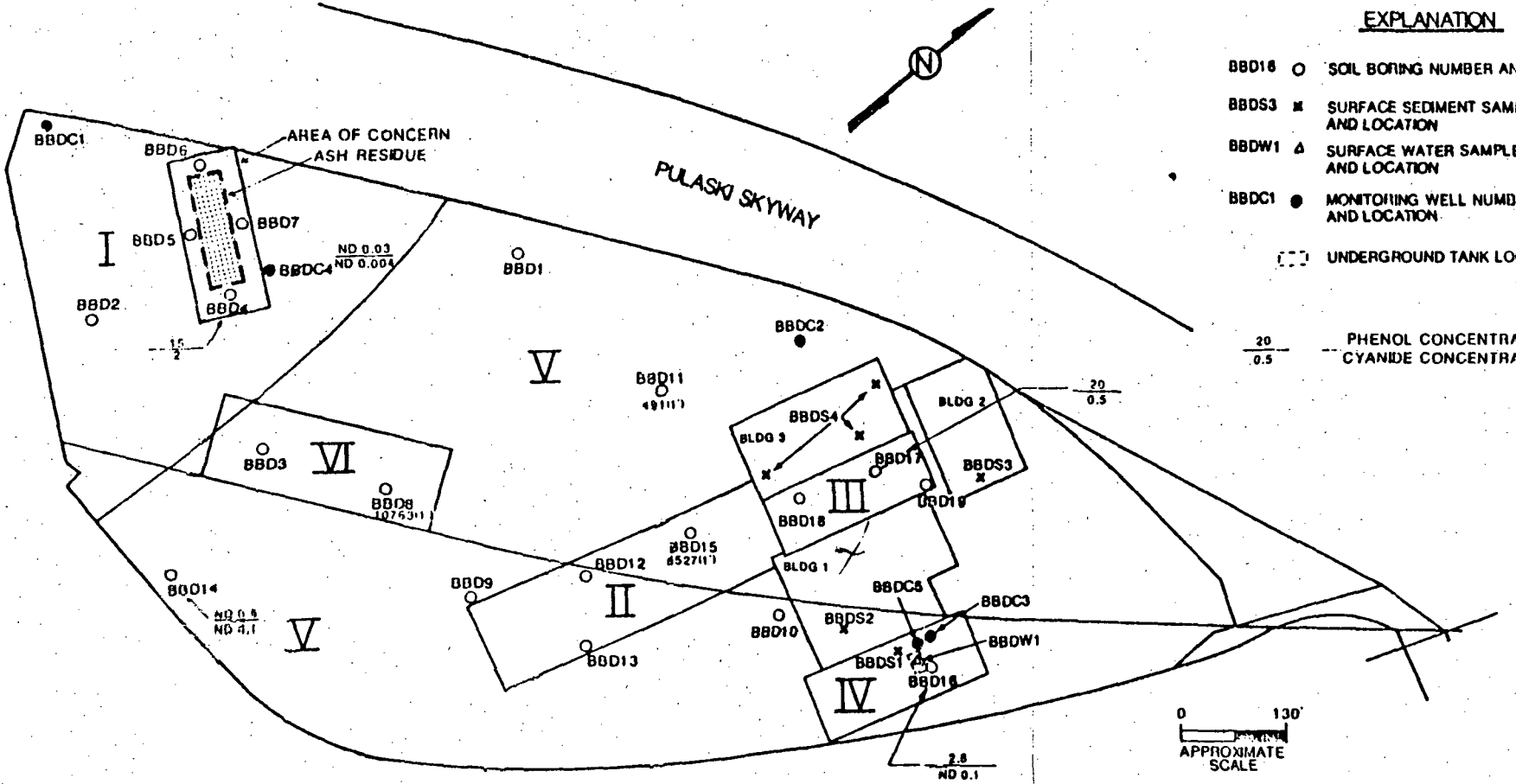
Prepared By MZ/BJR	Date MARCH, 1986
Job No. RAC102	Figure 9

NOTE:
(1) RESULTS FOR BBD17/S - WHICH IS FIELD DUPLICATE OF BBD17/1'.
(2) RESULTS FOR WELL BORING SOIL SAMPLES AND GROUND WATER SAMPLES ARE SHOWN IN TABLES

ATTACHMENT B-29

GROUND WATER

METALS (PPM)	Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
BBDC4	ND 0.5	0.01	ND 0.01	ND 0.01	ND 0.01	0.04	ND 0.1	ND 0.002	ND 0.01	ND 0.007	0.03	ND 0.1	0.03



EXPLANATION

- BBD16 ○ SOIL BORING NUMBER AND LOCATION
- BBDS3 ✖ SURFACE SEDIMENT SAMPLE NUMBER AND LOCATION
- BBDW1 △ SURFACE WATER SAMPLE NUMBER AND LOCATION
- BBDC1 ● MONITORING WELL NUMBER AND LOCATION
- UNDERGROUND TANK LOCATION
- 20 / 0.5 — PHENOL CONCENTRATION (ppm) / CYANIDE CONCENTRATION (ppm)

SOILS

METAL (PPM)	Sb	As	Ba	Be	Cd	Cr	Cu	Pb	Hg	Ni	Ag	Se	Tl	Zn
BBD 4/1'	13	1.[illegible]	NR	0.64	1300	3400	15900	8400	2.2	62.4	0.92	0.030	ND 0.4	4520
BBD 14/1'	8.4	8.4	NR	0.28	0.62	27	15.6	92	1.6	25	0.3	0.019	ND 0.4	71.2
BBD 16/5-10'	4.0	2.9	NR	0.32	0.8	7.00	4.64	15	0.62	5.28	0.2	ND 0.004	ND 0.4	15.4
BBD 17/1'	6.0	1.5	NR	0.50	6.56	2300	128	370	1.6 (2.3)	56.8	1.7	0.023	ND 0.4	5040

NOTES:
FOR SAMPLES BBD 8, 11 & 15, METALS ANALYSIS INCLUDES: As,Ba,Cd,Cr,Pb,Hg,Ag and Se.
FOR SAMPLES BBD4, 14, 16 & 17, METALS ANALYSIS INCLUDES. Sb,As,Be,Cd,Cr,Cu,Pb,Hg,Ni,Se,Ag,Tl AND Zn.
(GW)-RESULTS SHOWN FOR SAMPLE BBDC4 ARE CONCENTRATIONS IN GROUND WATER.

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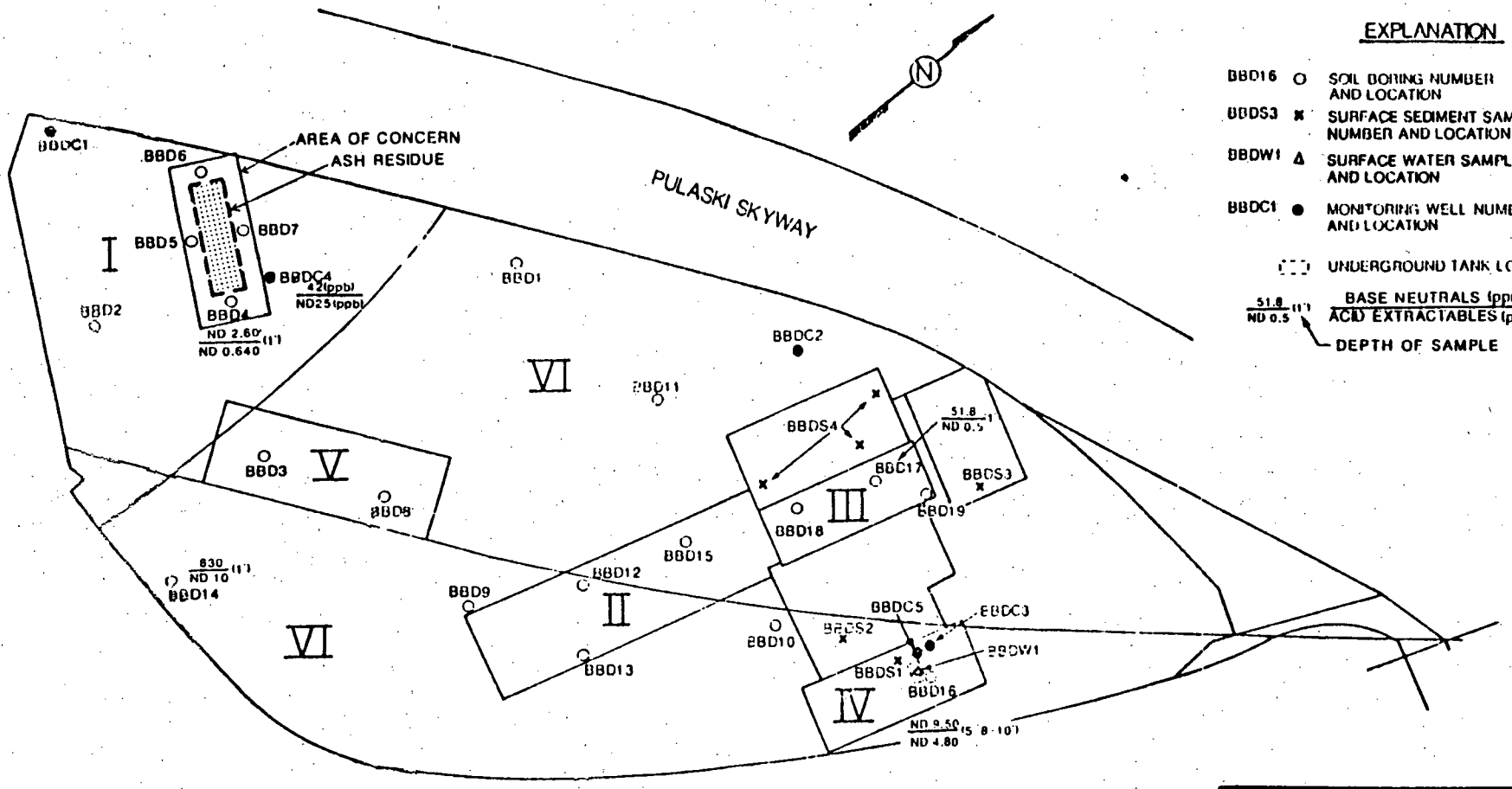
METALS, PHENOL, AND CYANIDE CONCENTRATIONS (ppm) IN SOILS
OCTOBER 25 - 31, 1985
AND GROUND WATER JANUARY 7, 1986

BAYONNE BARREL & DRUM CO NEWARK, NJ

Prepared By MZ/JAL	Date APRIL, 1986
Job No. 84C182	Figure 10

ATTACHMENT B-30



NOTE: CONCENTRATIONS REPORTED FOR BBDC4 ARE FOR GROUND WATER.

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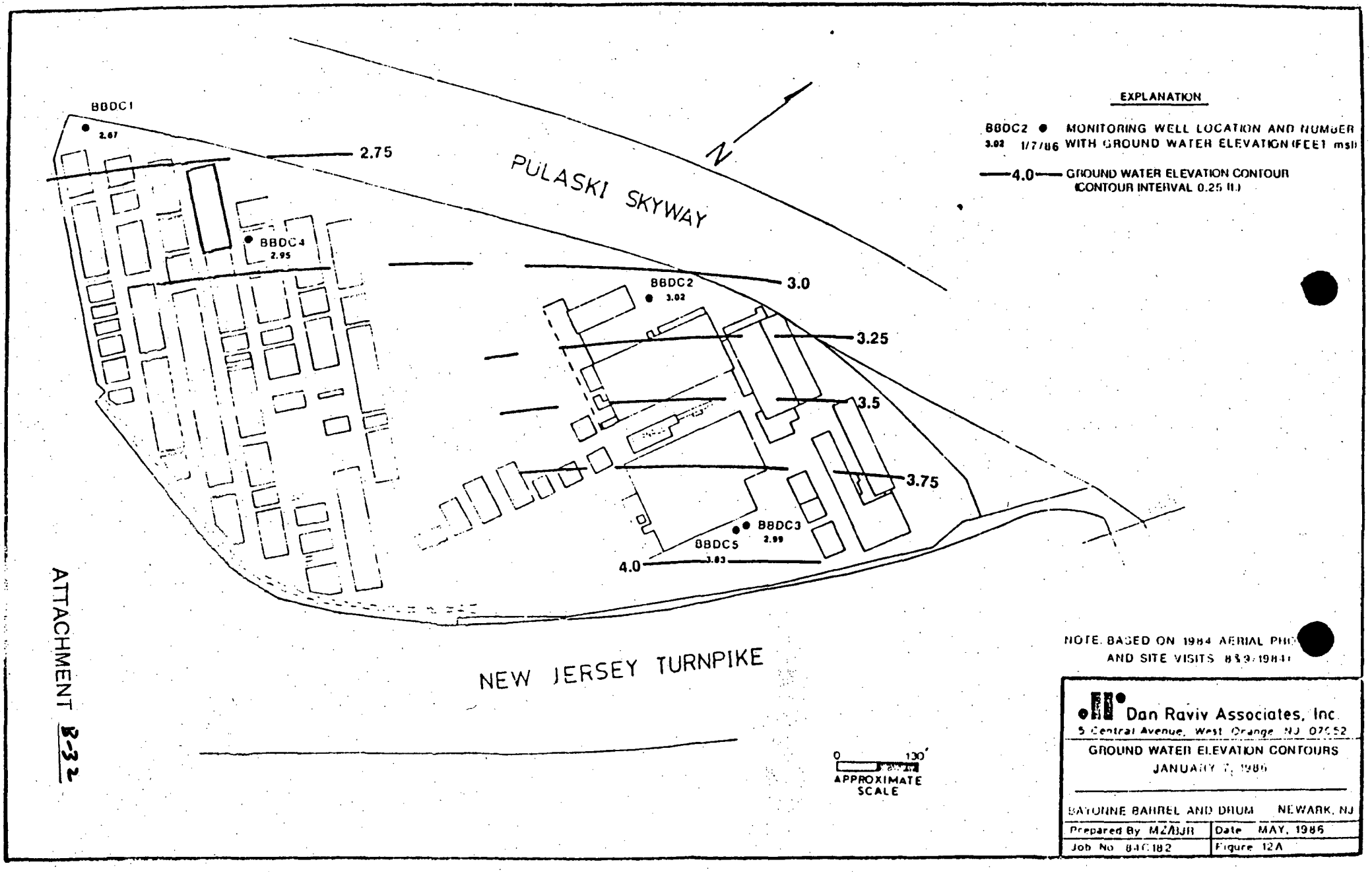
BASE NUETRAL AND ACID EXTRACTABLE COMPOUND CONCENTRATIONS (TOTAL) IN SOILS (PPM) 10/25-31/85 AND IN GROUND WATER (ppb) 1/7/86

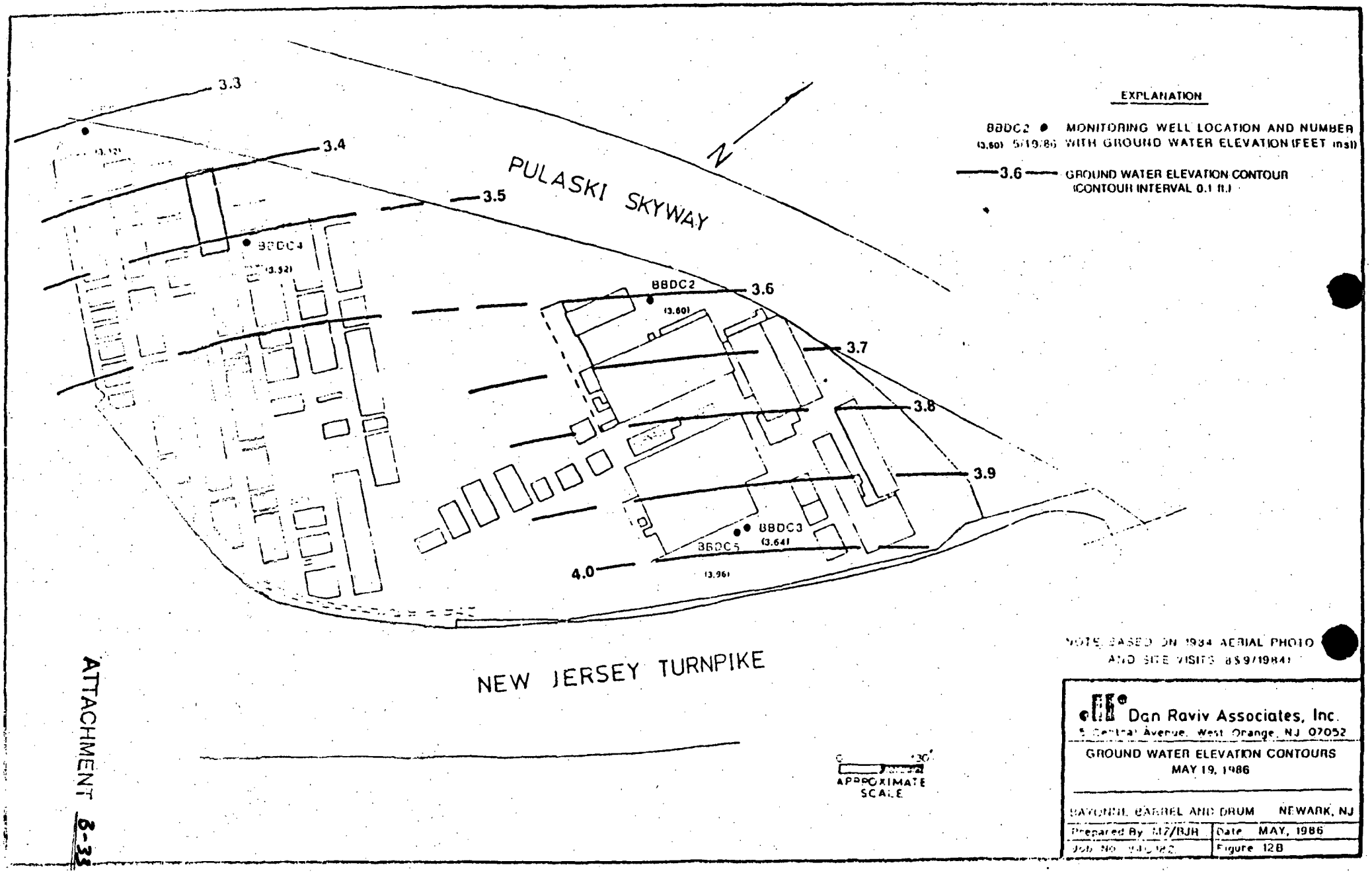
BAYONNE BARREL — NEWARK, N.J.

Prepared By MZ/BJR	Date MARCH, 1986
Job No 84C182	Figure 11

ATTACHMENT B-31



ATTACHMENT B-32



ATTACHMENT 8-33

Table I.1

Summary of Soil Boring and Surface Samples and Analyses
Field Investigation I
January 18, 1985

Boring/Soil Sample No.	Sample Interval Deep (feet)	Analyses Requested
BBD1	0-2	PCB
BBD2	0-2	PCB
BBD3	0-3	PCB
BBD4	0-3	PCB
BBD5	0-3	PCB
BBD6	0-3	PCB
BBD7	0-3	PCB
BBD8	0-3	PCB
BBD9	0-3	PCB
BBD10	Composite (1)	EP-Toxicity
BBD11	Surface	PCB
BBD12	Surface	PCB
BBD13	Surface	PCB
BBD14	Surface	PCB

(1) Sample BBD10 is a composite of samples BBD 2,5 and 8. Analysis includes metals (As,Ba,Cd,Cr,Pb,Hg,Ag and Se), Herbicides (Endrine, Lindane, Methoxychlor, and Toxaphene) and Pesticides (2,4-D and 2,4,5-TP Silvex).

Table I.2

Summary of Soil Boring and Surface Samples and Analyses
Field Investigation II
October 25-31, 1985

Boring/Soil Sample No.	Sample Interval Depth (feet)	Analyses Requested
BBD1	0-1	TPHC, VOA (2)
	1-2	[TPHC]
	2-3	[TPHC]
	5-7	[TPHC]
BBD2	0-1	TPHC, VOA
	1-2	[TPHC]
	2-3	[TPHC]
	5-7	TPHC
	9-11	NR
	13-15	NR
BBD3	0-1	PCB, TPHC
	1-2	[PCB,TPHC]
	2-3	[TPHC]
BBD4	0-1	PP, TPHC
	1-2	TPHC
	2-3	[TPHC]
	5-7	[TPHC]
	9-11	[TPHC]
	13-15	NR
BBD5	0-1	TPHC
	1-2	[TPHC]
	2-3	[TPHC]
BBD6	0-1	TPHC
	1-2	[TPHC]
	2-3	[TPHC]
BBD7	0-1	TPHC
	1-2	NR
	2-3	NR
BBD8	0-1	TPHC, VOA, Metals
	1-2	[PCB, TPHC]
	2-3	[TPHC]
	5-7	TPHC
	7-9	NR
	9-11	NR

(1) NR = Analysis Not Requested.
(2) Request for analyses listed in brackets was made on 2/5/86.

Dan Raviv Associates, Inc.
Job No. 84C182

ATTACHMENT B-35

Summary of Soil Boring and Surface Samples and Analyses
Field Investigation II
October 25-31, 1985

Boring/Soil Sample No.	Sample Interval Depth (feet)	Analyses Requested
BBD9	0-1	PCB, TPHC
	1-2	[PCB, TPHC] (1)
	2-3	TPHC
	5-7	[TPHC]
	7-9	NR (2)
	9-11	NR
BBD10	0-1	TPHC
	1-2	(PCB,TPHC) (3)
	2-3	[TPHC]
BBD11	0-1	TPHC, Metals
	1-2	TPHC
	2-3	[TPHC]
BBD12	0-1	PCB,TPHC, VOA
	1-2	[TPHC]
	2-3	[TPHC]
BBD13	0-1	PCB, TPHC, VOA
	1-2	[PCB, TPHC]
	2-3	(TPHC)
	4(Field Blank)	VOA
BBD14	0-1	PP, TPHC
BBD15	0-1	PCB, TPHC, Metals
	1-2	NR
	2-3	(TPHC)
	5-7	TPHC, VOA
	9-11	[TPHC]
	12-14	NR
	15(Field Blank)	VOA
BBD16	1-2	VOA, [PCB, TPHC]
	5-8 & 8-10	PP, TPHC

(1) For parameters listed in brackets, request for analyses was made on 2/5/86.

(2) NR = Analysis not requested.

(3) For parameters listed in parenthesis, request for analyses was made 2/5/86; however, the sample was either lost or not analyzed due to insufficient volume.

Dan Raviv Associates, Inc.
Job No. 84C182

Table I.2 (cont'd)

Summary of Soil Boring and Surface Samples and Analyses
Field Investigation II
October 25-31, 1985

Boring/Soil Sample No.	Sample Interval Depth (feet)	Analyses Requested
BBD9	0-1	PCB, TPHC
	1-2	[PCB, TPHC] (1)
	2-3	TPHC
	5-7	[TPHC] (2)
	7-9	NR
	9-11	NR
BBD17	0-1	PP,TPHC, Dioxin
	S (1)	PCB, TPHC, VOA
	2-3	(PCB, TPHC) (2)
	5-7	[TPHC] (3)
	9-11	NR
BBD18	0-1	PCB,TPHC
	1-2	(PCB, TPHC)
	2-3	(PCB, TPHC)
BBD19	0-1	PCB,TPHC, VOA
	1-2	[PCB, TPHC]
	2-3	[PCB, TPHC]
BBD20	(Field Blank)	VOA
BBDW1	Surface Water	PCB, TPHC
BBDS1	Surface Sediment	PCB, TPHC
BBDS2	Surface Sediment	PCB, VOA
BBDS3	Surface Sediment	TPHC
BBDS4	Surface Sediment	PCB,TPHC, VOA

(1) BBD17/S is a field duplicate of BBD17/0-1'.
(2) For parameters listed in parentheses, request for analyses was made 2/5/86; however, the sample was either lost or not analyzed due to insufficient volume.
(3) For parameters listed in brackets, request for analysis was made 2/5/86.

Table I.3

Summary of Well Boring Samples and Analyses
Field Investigation III
November 27 - December 17, 1985

Boring/Soil Sample No.	Sample Interval Depth (feet)	Analyses Requested
BBDC1	0-2	PCB, TPHC, VOA
	5-7	VOA, [PCB,TPHC]
	10-12	PCB, TPHC
	15-17	NR
	20-22	NR
BBDC2	5-7	PCB, TPHC, VOA
	10-12	PCB, TPHC
BBDC3	0.5-2.5 & 2.5-4.5	[PCB,TPHC] (2)
	5-7	PCB, TPHC, VOA
	10-12	(PCB, TPHC)
	15-17	PCB, TPHC, VOA
	20-22	PCB, TPHC, VOA
	25-27	NR (1)
	30-32	NR
	35-37	NR
	40-42	NR
BBDC4	0-2	NR
	5-7	PCB, TPHC, VOA
	10-12A	PCB, TPHC
	10-12B	PCB, TPHC
	15-17	PCB, TPHC, VOA
BBDC5	No Sample	PCB

(1) NR = Analysis Not Requested.
(2) For parameters listed in brackets, request for analyses was made on 2/5/86.
(3) For parameters listed in parentheses, request for analyses was made on 2/5/86; however, the sample was either lost or not analyzed due to insufficient volume.

Table I.4

Summary of Ground Water Analyses
Field Investigation IV
January 7, 1986

Well Sample No.	Analysis Requested
BBDC1	PCB, TPHC, VOA
BBDC2	PCB, TPHC, VOA
BBDC3	PCB, TPHC, VOA
BBDC4	129 Priority Pollutants +40
BBDC5	PCB, TPHC, VOA
BBDC6 (1)	PCB, TPHC, VOA

(1) Sample BBDC6 is a field blank.

Table II
Summary of Sample Results by Area:
Concentrations of PCB's, TPHC's, VOC's, Base/Neutrals,
Acid Extractables, Phenol, Cyanide & Dioxin
Bayonne Barrel & Drum Company

Sample Date	Sample No.	Sample Depth (ft)	PCB's (ppm)	TPHC's (ppm)	VOC 's PRIORITY (Total) (ppb)	VOC's NON PRIORITY (ppb)	B/N (Total) (ppm)	AE (Total) (ppm)	PHENOL (ppm)	CYANIDE (ppm)
FURNACE RESIDUE PILE AREA										
January 18, 1985										
	BBD 1	0-2	15							
	BBD 2	0-2	ND 10							
	BBD 3	0-3	ND 10							
	BBD 4	0-2	ND 10							
	BBD 5	0-2	16							
	BBD 6	0-3	ND 10							
	BBD 7	0-2	ND 10							
	BBD 8	0-3	ND 15							
	BBD 9	0-3	17							
	BBD 10	C								
	BBD 14	surface	65							
October 25-31, 1985										
	BBD 2	0-1		1,390	ND 20	ND 20				
	BBD 2	1-2		810						
	BBD 2	2-3		1,130						
	BBD 2	5-7		610						
	BBD 4	0-1		6,040	9,015	66,035	ND 0.640	ND 2.60	15	2
	BBD 4	1-2		10,500						
	BBD 4	2-3		15,100						
	BBD 4	5-7		1,190	(900)					
	BBD 4	9-11		940						
	BBD 5	0-1		23,800						
	BBD 5	1-2		1,040						
	BBD 5	2-3		9,180						
	BBD 6	0-1		640	(650)					
	BBD 6	1-2		2,440						
	BBD 6	2-3		5,900						
	BBD 7	0-1		4,520						

Notes: ND = Not detected at or above minimum detection limit indicated.
C = Composite of samples BBD 2, BBD 5 & BBD 8.
Laboratory duplicates in parentheses.
If no entry, analysis was not requested.

ATTACHMENT 8-40

Table II (cont.)
Summary of Sample Results by Area:
Concentrations for PCB's, TPHC's, VOC's, Base Neutrals,
Acid Extractables, Phenol, Cyanide & Dioxin
Bayonne Barrel & Drum Company

PARAMETER: (units)	Sample No.	Sample Depth (ft)	PCB's (ppm)	TPHC's (ppm)	VOC's PRIORITY (Total) (ppb)	VOC's NON PRIORITY (ppb)	B/N (Total) (ppm)	AE (Total) (ppm)	PHENOL (ppm)	CYANIDE (ppm)
OIL STORAGE TANKS AREA										
October 25-31, 1985										
	BBD 16	1-2	213 (229)	20800	1817	2640				
	BBD 16	3-8 & 8-10		410	30	166	ND 9.50	ND 4.60	2.8	ND 0.1
	BBDS 1	surface	130	23700						
	BBDW 1	surface	ND 1	670						
November 27 - December 17, 1985										
	BBDC 3	0.5-2.5 & 2.5-4.5	43 (57)	5920						
	BBDC 3	5-7	141	39000	6315	12230				
	BBDC 3	10-12	ND 1	190						
	BBDC 3	15-17	ND 1	28	ND 20	ND 20				
	BBDC 3	20-22	ND 1	58	ND 20	ND 20				
January 7, 1986										
	BBDC 3	Ground Water	ND 1 (ppb)	4.8						
	BBDC 5	Ground Water	53 (ppb) 80 (1)	2000						
DRUM STORAGE AND BACKROUND AREAS										
October 25-31, 1985										
	BBD 1	0-1		1990	ND 20	ND 20				
	BBD 1	1-2		1480						
	BBD 1	2-3		530						
	BBD 3	0-1	42	4410						
	BBD 3	1-2	23 (21)	9630 (7290)						
	BBD 3	2-3		7440						
	BBD 8	0-1		3470	ND 20	ND 20				
	BBD 8	1-2	5	31200						
	BBD 8	2-3		173000						
	BBD 10	0-1		580						
	BBD 10	2-3		230						
	BBD 11	0-1		4650						
	BBD 11	1-2		760						
	BBD 11	2-3		450						
	BBD 14	0-1		460	ND 20	ND 20	830	ND 10	ND 0.5	ND 0.1
November 27 - December 17, 1985										
	BBDC 2	5-7	2	670	121 (135)	250 (280)				
	BBDC 2	10-12	ND 1	14	ND 20	36				
BUILDINGS										
October 25-31, 1985										
	BBDS 2	surface	80		ND 20	ND 20				
	BBDS 3	surface		850						
	BBDS 4	surface	11.1	39400	39	45				

Notes: (1) Concentration (ppm) in sediments filtered out of sample.
ND = Not detected at or above minimum detection limit indicated.
Laboratory duplicates in parentheses.

ATTACHMENT B-41

Table 11 (cont.)

Summary of Sample Results by Area:
Concentrations for PCB's, TPHC's, VOC's, Base/Neutrals,
Acid Extractables, Phenol, Cyanide & Dioxin
Bayonne Barrel & Drum Company

Sample Date	Sample No.	Sample Depth (ft)	PCB's (ppm)	TPHC's (ppm)	VOC 's PRIORITY (Total) (ppb)	VOC's NON PRIORITY (ppb)	B/N (Total) (ppm)	AE (Total) (ppm)	PHENOL (ppm)	CYANIDE (ppm)	DIOXIN (ppb)
FURNACE RESIDUE PILE AREA (cont.)											
November 27 - December 17, 1985											
	BBDC 1	0-2	10.3 (8.7)	830	ND 20	ND 20					
	BBDC 1	5-7	ND 5	8,630	2,710	2,160					
	BBDC 1	10-12	ND 1	410							
	BBDC 4	5-7	3.4	3,100 (3,600)	3,817	5,700					
	BBDC 4	10-12A	ND 1	34							
	BBDC 4	10-12B	ND 1	82							
	BBDC 4	15-17	ND 1	ND 10	56	ND 20					
January 7, 1986											
	BBDC 4	Ground Water	ND 10 (1)		33	80	42 ppb	ND 25 ppb	ND 0.03	ND 0.004	
FURNACE AREA											
January 18, 1985											
	BBD 11	surface	ND 10								
	BBD 12	surface	ND 20								
	BBD 13	surface	ND 10								
October 25-31, 1985											
	BBD 17	0-1	ND 0.5 (1)	9,210	11,561 (9,446)	1,765 (1,680)	51.8	ND 0.5	20	0.5	ND 0.32
	BBD 17	S	28	16,000	22,553						
	BBD 17	5-7		20,800							
	BBD 18	0-1	320	16,300							
	BBD 19	0-1	37.4	4,330	ND 20	ND 20					
	BBD 19	1-2	32 (39)	1,700							
	BBD 19	2-3	ND 1.0	130 (23)							
INCOMING DRUM STORAGE AREA											
October 25-31, 1985											
	BBD 9	0-1	23	10,700							
	BBD 9	1-2	ND 1	410							
	BBD 9	2-3		480							
	BBD 9	5-7		120							
	BBD 12	0-1	6	100	52	191	9.13	ND 0.5			
	BBD 12	1-2		42							
	BBD 12	2-3		120							
	BBD 13	0-1	55	8,260	1,049	3,440	27.01	ND 0.5			
	BBD 13	1-2	ND 5	1,350							
	BBD 15	0-1	8	1,820 (1,820)			31.24	ND 0.5			
	BBD 15	5-7		3,740	147	2,340					
	BBD 15	9-11		5,230							

Notes: (1) PCB results are part of the priority pollutant-base neutral scan for the sample listed.
Sample BBD17/S is a field duplicate of sample BBD17/0-1.
ND = Not detected at or above minimum detection limit indicated.
Laboratory duplicates in parentheses.
If no entry, analysis was not requested.

ATTACHMENT B-42

Table III
Summary of Polychlorinated Biphenyls, Total Petroleum Hydrocarbon & Dioxin
Concentrations in Soils January 18, October 25-31, 1985 and November 27 - December 17, 1985
Bayonne Barrel & Drum Company

PARAMETER (units):	PCB's (ppm)	PCB's (ppm)	Total Petroleum Hydrocarbons (ppm)
Sample date:	1/18/85	10/25-31/85	10/25-31/85
Sample No./ Sample Depth (ft)			
BBD 1/0-1	15		1990
BBD 1/1-2			1480
BBD 1/2-3			530
BBD 2/0-1	ND 10		1390
BBD 2/1-2			810
BBD 2/2-3			1130
BBD 2/5-7			610
BBD 3/0-1	ND 10	42	4410
BBD 3/1-2		23 (21)	9630 (7290)
BBD 3/2-3			7440
BBD 1/0-1	ND 10		6040
BBD 4/1-2			10500
BBD 4/2-3			15100
BBD 4/5-7			1190 (900)
BBD 4/9-11			940
BBD 5/0-1	16		23800
BBD 5/1-2			1040
BBD 5/2-3			9180
BBD 6/0-1	ND 10		640 (650)
BBD 6/1-2			2440
BBD 6/2-3			5900
BBD 7/0-1	ND 10		4520
BBD 8/0-1	ND 15		3470
BBD 8/1-2		5	31200
BBD 8/2-3			173000
BBD 9/0-1	17	23	10700
BBD 9/1-2		ND 1	410
BBD 9/2-3			480
BBD 9/5-7			120
BBD 10/0-1			580
BBD 10/2-3			230

Notes: *Samples BBD 1 - BBD 9, collected January 18, 1985, are split spoon samples taken from a depth of 0-2 feet.*
ND = Not detected at or above minimum detection limit indicated.
Laboratory duplicates in parentheses.
If no entry, analysis was not requested.

ATTACHMENT B-43

Summary of Polychlorinated Biphenyls, Total Petroleum Hydrocarbon & Dioxin Concentrations in Soils January 18, October 25-31, 1985 and November 27 - December 17, 1985
Bayonne Barrel & Drum Company

PARAMETER (units):	PCB's (ppm)	PCB's (ppm) 10/25-31/85	Total Petroleum Hydrocarbons (ppm)	Dioxin (ppb)
Sample date:	1/18/85	11/27 - 12/17/85	10/25-31/85	10/25-31/85
Sample Designation/ Sample Depth (ft.)				
BBD 11/0-1	ND 10 (1)		4150	
BBD 11/1-2			760	
BBD 11/2-3			450	
BBD 12/0-1	ND 20 (1)	6	100	
BBD 12/1-2			42	
BBD 12/2-3			120	
BBD 13/0-1	ND 10 (1)	55	8260	
BBD 13/1-2		ND 5	1350	
BBD 14/0-1	65 (1)		460	
BBD 15/0-1		8	1820 (1820)	
BBD 15/5-7			3740	
BBD 15/9-11			5230	
BBD 16/1-2		213 (229)	20800	
BBD 16/5-8,8-10			410	
BBD 17/0-1		ND 0.5	9210	ND 0.320
BBD 17/S		28	16000	
BBD 17/5-7		--	20800	
BBD 18/0-1		320	16300	
BBD 19/0-1		37.4	4330	
BBD 19/1-2		32(39)	1700	
BBD 19/2-3		ND 1	130 (23)	
BBD C1/0-2		10.3(8.7)	830	
BBD C1/5-7		ND 5	8630	
BBD C1/10-12		ND 1	410	
BBD C2/5-7		2	670	
BBD C2/10-12		ND 1	14	
BBD C3/0.5-2.5, 2.5-4.5		43(57)	5920	
BBD C3/5-7		141	59000	
BBD C3/10-12		ND 1	190	
BBD C3/15-17		ND 1	28	
BBD C3/20-22		ND 1	58	
BBD C4/5-7		3.4	3100 (3600)	
BBD C4/10-12A		ND 1	34	
BBD C4/10-12B		ND 1	82	
BBD C4/15-17		ND 1	ND 10	

ATTACHMENT B-44

Notes: (1) Samples BBD 11 - BBD 14, collected January 18, 1985, are surface soil samples.
Results for samples designated "BBD C" are for samples collected on 11/27 - 12/17/85.
ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

Table IV
Summary of Volatile Organic Compound
Concentrations in Soils
October 25-31, *1985*
Bayonne Barrel & Drum Company

Sample No.	BBD 1	BBD 2	BBD 4	BBD 8	BBD 12	BBD 13	BBD 13	BBD 14
Sample Depth (ft):	0-1	0-1	0-1	0-1	0-1	0-1	4 (field blank)	0-1
PRIORITY POLLUTANTS (ppb)								
Acrolein (ppm)			ND 1					ND 1
Acrylonitrile (ppm)			ND 1					ND 1
Vinyl Chloride	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 5	ND 20
Chloroethane								
Methylene Chloride								
1,1-Dichloroethylene								
1,1-Dichloroethane								
1,2-Dichloroethylene								
Chloroform								
1,2-Dichloroethane								
1,1,1-Trichloroethane								
1,2-Dichloropropane								
Trichloroethylene			ND 20			ND 20		
Benzene			55			29		
1,1,2-Trichloroethane			ND 20			ND 20		
1,1,2,2-Tetrachloroethylene			ND 20			ND 20		
Toluene			360			210		
Chlorobenzene			ND 20		ND 20	ND 20		
Ethylbenzene			8600		52	810		
1,2 & 1,4-Dichlorobenzene	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 5	ND 20
Total Priority Pollutants	ND 20	ND 20	9015	ND 20	52	1049	ND 5	ND 20

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT 8-45

Table IV (cont.)
Summary of Volatile Organic Compound
Concentrations in Soils
October 25-31, 1985
Bayonne Barrel & Drum Company

Sample No.	BBD 15	BBD 15	BBD 16	BBD 16	BBD 17	BBD 17	BBD 17	BBD 19	BBD 20
Sample Depth (ft):	5-7	15 (Field Blank)	1-2	5-8 8-10	0-1	0-1 (Lab Dup)	S	0-1	Water (Field Blank)
PRIORITY POLLUTANTS (ppb)									
Acrolein (ppm)				ND 1	ND 1				
Acrylonitrile (ppm)				ND 1	ND 1				
Vinyl Chloride	ND 20	ND 5	ND 20	ND 20	89	170	170	ND 20	ND 5
Chloroethane					ND 20	ND 20	33		
Methylene Chloride					130	91	740		
1,1-Dichloroethylene					ND 20	ND 20	28		
1,1-Dichloroethane					250	210	1000		
1,2-Dichloroethylene					150	120	1100		
Chloroform					41	21	100		
1,2-Dichloroethane					36	32	78		
1,1,1-Trichloroethane					510	211	850		
1,2-Dichloropropane					ND 20	ND 20	52		
Trichloroethylene	ND 20		ND 20	ND 20	240	210	830		
Benzene	60		57	30	130	87	220		
1,1,2-Trichloroethane	ND 20		ND 20	ND 20	100	92	220		
1,1,2,2-Tetrachloroethylene			ND 20		94	71	290		
Toluene			930		7500	6400	14000		
Chlorobenzene	ND 20		ND 20		30	22	49		
Ethylbenzene	87		830		2200	1600	2700		
1,2 & 1,4-Dichlorobenzene	ND 20	ND 5	ND 20	ND 20	61	79	93	ND 20	ND 5
Total Priority Pollutants	147	ND 5	1817	30	11561	9446	22553	ND 20	ND 5

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT 8-46

Table IV (cont.)
Summary of Volatile Organic Compound
Concentrations in Soils
October 25-31, 1985
Bayonne Barrel & Drum Company

Sample No.	BBD 1	BBD 2	BBD 4	BBD 8	BBD 12	BBD 13	BBD 13	BBD 14
Sample Depth (ft):	0-1	0-1	0-1	0-1	0-1	0-1	4 (field blank)	0-1
NON PRIORITY POLLUTANTS (ppb)								
1-Butanol	ND 20	ND 20	50	ND 20	ND 20	ND 20	ND 5	ND 20
Isopropylcyclopropane			ND 20		ND 20	ND 20		
Xylenes			28000		ND 20	ND 20		
m-Xylene			28000		38	1500		
o,p-Xylene			ND 20		47	1200		
Cyclopropane					ND 20	ND 20		
Acetone								
Methyl Sulfide								
Isopropanol								
Carbon Disulfide								
Methyl Ethyl Ketone								
Freon 113								
Methylcyclohexane								
Toluene								
Methyl Isobutyl Ketone								
2-Methyl-2-Pentanol								
C12 Aliphatic Hydrocarbons			ND 20			ND 20		
C9H14 Aliphatic Hydrocarbons			190			70		
C7H16 Aliphatic Hydrocarbons			35			ND 20		
C8H16 Aliphatic Hydrocarbons			30		ND 20	ND 20		
C9H10 Aromatic Hydrocarbons			2600		75	150		
C9H12 Aromatic Hydrocarbons			430		31	130		
C9H12 Aromatic Hydrocarbons			3400		ND 20	330		
C9H12 Aromatic Hydrocarbons			ND 20			60		
C9H12 Aromatic Hydrocarbons			3300			ND 20		
C10H14			ND 20					
C10H20			ND 20					
Styrene	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 5	ND 20
Total Non Priority Pollutants	ND 20	ND 20	66035	ND 20	191	3440	ND 5	ND 20

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

Table IV (cont.)
Summary of Volatile Organic Compound
Concentrations in Soils
October 25-31, 1985
Bayonne Barrel & Drum Company

Sample No.	BBD 15	BBD 15	BBD 16	BBD 16	BBD 17	BBD 17	BBD 17	BBD 19	BBD 20
Sample Depth (ft):	5-7	15 (Field Blank)	1-2	5-8 8-10	0-1	0-1 (Lab Dup)	S	0-1	water (Field Blank)
NON PRIORITY POLLUTANTS (ppb)									
1-Butanol	ND 20	ND 5	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 5
Isopropylcyclopropane			ND 20	ND 20			ND 20		
Xylenes			ND 20	ND 20			ND 20		
m-Xylene			1400	43			3900		
o,p-Xylene			1200	23			3400		
Cyclopropane			ND 20	ND 20	ND 20	ND 20	30		
Acetone					130	130	70		
Dimethyl Sulfide					ND 20	ND 20	30		
Isopropanol					ND 20	ND 20	50		
Carbon Disulfide					30	15	50		
Methyl Ethyl Ketone					170	140	110		
Freon 113					ND 20	ND 20	20		
Cyclohexane					40	20	50		
Hexane					25	15	25		
Methyl Isobutyl Ketone					730	500	550		
4-Methyl-2-Pentanol					160	85	140		
C6H12 Aliphatic Hydrocarbons				ND 20	30	35	100		
C7H14 Aliphatic Hydrocarbons				70	40	80	120		
C7H16 Aliphatic Hydrocarbons				ND 20	ND 20	ND 20	ND 20		
C8H16 Aliphatic Hydrocarbons	ND 20			30	ND 20	ND 20	ND 20		
C9H12 Aromatic Hydrocarbons	300		ND 20	ND 20	ND 20	ND 20	ND 20		
C9H12 Aromatic Hydrocarbons	910		40		40	35	60		
C9H12 Aromatic Hydrocarbons	580		ND 20		60	55	80		
C9H12 Aromatic Hydrocarbons	550				190	200	300		
C9H12 Aromatic Hydrocarbons	ND 20				120	90	150		
[illegible]					ND 20	ND 20	ND 20		
[illegible]					ND 20	ND 20	ND 20		
Styrene	ND 20	ND 5	ND 20	ND 20	ND 20	280	450	ND 20	ND 5
Total Non Priority Pollutants	2340	ND 5	2640	166	1765	1680	9685	ND 20	ND 5

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT 8-48

Table IV (cont.)
Summary of Volatile Organic Compound
Concentrations in Soils
November 27 - December 17, 1985
Bayonne Barrel & Drum Company

Sample No.	BBD C1	BBD C1	BBD C2	BBD C2	BBD C2	BBD C3	BBD C3	BBD C3	BBD C4	BBD C4
Sample Depth (ft):	0-2	5-7	5-7	5-7 (Lab Dup)	10-12	5-7	15-17	20-22	5-7	15-17
PRIORITY POLLUTANTS (ppb)										
Acrolein (ppm)										
Acrylonitrile (ppm)										
Vinyl Chloride	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20
Chloroethane										
Methylene Chloride										
1,1-Dichloroethylene										
1,1-Dichloroethane										
1,2-Dichloroethylene										
Chloroform										
1,2-Dichloroethane										
1,1,1-Trichloroethane										
1,2-Dichloropropane										
Trichloroethylene		ND 20	ND 20	ND 20		ND 20			ND 20	ND 20
Benzene		410	50	51		265			90	26
1,1,2-Trichloroethane		ND 20	ND 20	ND 20		ND 20			ND 20	ND 20
1,1,2,2-Tetrachloroethylene			ND 20	ND 20		ND 20			ND 20	ND 20
Toluene			71	84		1700			2200	20
Chlorobenzene		ND 20	ND 20	ND 20		330			650	ND 20
Ethylbenzene		2300	ND 20	ND 20		3700			790	10
1,2 & 1,4-Dichlorobenzene	ND 20	ND 20	ND 20	ND 20	ND 20	320	ND 20	ND 20	87	ND 20
Total Priority Pollutants	ND 20	2710	121	135	ND 20	6315	ND 20	ND 20	3817	56

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT B-49

Table IV (cont.)
Summary of Volatile Organic Compound
Concentrations (ppb) in Soils
November 27 - December 17, 1985
Bayonne Barrel & Drum Company

Sample No.	BBD C1	BBD C1	BBD C2	BBD C2	BBD C2	BBD C3	BBD C3	BBD C3	BBD C1	BBD C1
Sample Depth (ft):	0-2	5-7	5-7	5-7 (Lab Dup)	10-12	5-7	15-17	20-22	5-7	15-17
NON PRIORITY POLLUTANTS (ppb)										
1-Butanol	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20
Isopropylcyclopropane		ND 20	ND 20	ND 20		ND 20			70	
Xylenes		800	130	140		9600			1300	
m-Xylene		ND 20	ND 20	ND 20		ND 20			ND 20	
o,p-Xylene										
Cyclopropane										
Acetone										
Dimethyl Sulfide										
Isopropanol				ND 20	ND 20				ND 20	
Carbon Disulfide				20	36				40	
Methyl Ethyl Ketone				ND 20	ND 20				ND 20	
Freon 113									ND 20	
Cyclohexane									50	
Hexane			ND 20	ND 20					ND 20	
Methyl Isobutyl Ketone			120	120						
4-Methyl-2-Pentanol			ND 20	ND 20						
C6H12 Aliphatic Hydrocarbons						ND 20			ND 20	
C7H14 Aliphatic Hydrocarbons						200			150	
C7H16 Aliphatic Hydrocarbons						ND 20			30	
C8H16 Aliphatic Hydrocarbons		ND 20				ND 20			ND 20	
C9H10 Aromatic Hydrocarbons		1100				330			80	
C9H12 Aromatic Hydrocarbons		ND 20				2000			800	
C9H12 Aromatic Hydrocarbons		ND 20				ND 20			ND 20	
C9H12 Aromatic Hydrocarbons		ND 20				ND 20				
C9H12 Aromatic Hydrocarbons		260				ND 20				
C10H14		ND 20				100				
C10H19						100			ND 20	
C10H20						ND 20			180	
Styrene	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20	ND 20
Total Non Priority Pollutants	ND 20	2160	250	280	36	12230	ND 20	ND 20	5700	ND 20

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT R-50

Table V
Summary of Metals, Phenol, Cyanide & Pesticides Concentrations
in Soils January 18, 1985 and October 25-31, 1985
Bayonne Barrel & Drum Company

Sample No.	BBD10	BBD 4	BBD 8	BBD 11	BBD 14	BBD 15	BBD 16	BBD 17
Sample Depth (ft):	(notes)	0-1	0-1	0-1	0-1	0-1	5-8	0-1
		ash pile	drum storage				8-10	incinerator
METALS (ppm)								
Antimony		13			8.4		4.0	6.0
Arsenic	0.002	17	390	51	8.4	55	2.9	56
Barium	ND 1.0		22	10		10		
Beryllium		0.64			0.28		0.32	0.5
Cadmium	0.21	1300	34	4.72	0.52	5.08	0.2	6.56
Chromium	ND 0.02	3400	1900	43.2	27	52.0	7.0	2300
Copper		15500			15.6		4.64	128
Lead	2.6	8400	8400	380	92	6400	15	370
Mercury	0.0004	2.2	13.6	1.3	1.6	4.1	0.62	1.6 (2.3)
Nickel		62.4			25		5.28	56.8
Silver	ND 0.02	0.92	3.1	0.48	0.3	0.84	0.2	1.7
Selenium	0.001	0.03	0.046	0.004	0.019	0.042	ND 0.004	0.023
Thallium		ND 0.4			ND 0.4		ND 0.4	ND 0.4
Zinc		4520			71.2		15.4	5040
Phenol (ppm)		15			ND 0.5		2.8	20
Cyanide (ppm)		2			ND 0.1		ND 0.1	0.5
PESTICIDES (ppb)								
Endrine	ND 1.0							
Lindane	ND 1.0							
Methoxychlor	ND 1.0							
Toxaphene	ND 1.0							
2,4-D	ND 1.0							
2,4,5-TP Silvex	ND 1.0							

Notes: Sample BBD 10, collected January 18, 1985, from furnace residue pile, is a composite sample analyzed for EP Toxicity.
ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT B-5

Table VI
Summary of Base/Neutral - Pesticide Extractable
& Acid Extractable Compounds Concentrations in Soils
October 25-31, 1985

Sample No.	BBD 4	BBD 14	BBD 16	BBD 17	BBD 12	BBD 13	BBD 15
Sample Depth (ft):	0-1	0-1	5-8 8-10	0-1	0-1	0-1	0-1
BASE/NEUTRAL - PESTICIDES (ppm)							
Benzyl Butyl Phthalate	ND 2.60		ND 4.80	19.3	ND 0.5	ND 0.5	ND 0.5
Di-n-Butylphthalate				17.0	ND 0.5	ND 0.5	ND 0.5
2-Methyl Naphthalene				15.5	0.68	1.5	ND 0.5
Anthracene				ND 0.5	ND 0.5	0.65	1.0
Benzo(b)fluoranthene					ND 0.5	0.91	1.9
Benzo(a)pyrene					ND 0.5	1.3	2.3
bis(2-Ethylhexyl)phthalate		410			7.25	6.3	2.8
Chrysene					ND 0.5	2.3	2.9	
2,4-Dinitrotoluene						1,9	ND 0.5
Fluoranthene						2.5	5.2
Fluorene					ND 0.5	0.63	ND 0.5
Naphthalene		420			1.2	1.7	ND 0.5
Phenanthrene					ND 0.5	2.8	4.7
Pyrene						4.0	5.8
1,2-Diphenylhydrazene						0.52	ND 0.5
Benzo(a)anthracene						ND 0.5	2.9
Benzo(ghi)perylene						ND 0.5	0.87
Indeno(1,2,3-cd)pyrene				ND 0.5	ND 0.5	ND 0.5	0.87
Total Base/Neutral & Pesticides	ND 2.60	830	ND 4.80	51.8	9.13	27.01	31.24
Total ACID EXTRACTABLES (ppm)	ND 0.640(1)		ND 9.50(1)	ND 0.5	ND 0.5	ND 0.5	ND 0.5

Notes: ND = not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

ATTACHMENT B-52

Table VII
Summary of Polychlorinated Biphenyls, Total Petroleum Hydrocarbons & Volatile Organic Compound Concentrations in Surface Sediment & Surface Water Samples
October 25-31, 1985
Bayonne Barrel & Drum Company

	Sediments				Water
Sample No.:	BBD S1	BBD S2	BBD S3	BBD S4	BBD W1
PARAMETER	Concentrations (ppm)				
PCB's	130	80		11.1	ND 1
Total Petroleum Hydrocarbons	23700		850	39400	670
PARAMETER	Concentrations (ppb)				
Volatile Organic Compounds					
Priority Pollutants		ND 20			ND 5
Toluene		ND 20		39	
Non Priority Pollutants		ND 20			
Acetone				25	
4-Methyl-2-Pentanol				20	

Notes: ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

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Table VIII
Summary of Polychlorinated Biphenyls , Total Petroleum Hydrocarbons, Metals,
Acid Extractables, Base Neutrals, Phenol & Cyanide
Concentrations in Ground Water
January 7,1986
Bayonne Barrel & Drum Company

Sample No.:	BBD C1	BBD C2	BBD C3	BBD C4	BBD C5	BBD C6
PARAMETER (units)						
PCB's (ppb)	ND 1	ND 1	ND 1	ND 10 (1)	53 80 (2)	ND 1
Total Petroleum Hydrocarbons (ppm)	2.8	3.7	4.8		2000	1.8
METAL CONSTITUENTS	Concentrations (ppm)					
Antimony				ND 0.5		
Arsenic				0.01		
Beryllium				ND 0.01		
Cadmium				ND 0.01		
Chromium				ND 0.01		
Copper				0.04		
Lead				ND 0.1		
Mercury				ND 0.002		
Nickel				ND 0.01		
Selenium				ND 0.007		
Silver				0.03		
Thallium				ND 0.1		
Zinc				0.03		
PARAMETER (units)						
Base/Neutrals (ppb)						
Di-N-Butylphthalate				28		
Naphthalene				14		
Acid Extractables (ppb)				ND 25		
Phenol (ppm)				ND 0.03		
Cyanide (ppm)				ND 0.004		

Notes: (1) PCB results are part of the priority pollutant - Base Neutral scan for the sample listed.
(2) Concentration (ppm) in sediments filtered out of water sample.
ND = Not detected at or above minimum detection limit indicated.
If no entry, analysis was not requested.

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Table IX
Summary of Volatile Organic Compound Concentrations in Ground Water
January 7, 1986
Bayonne Barrel & Drum Company

Sample No.:	BBD C1	BBD C2	BBD C3	BBD C4	BBD C5	BBD C6
CONSTITUENTS	Concentrations (ppb)					
PRIORITY POLLUTANTS (ppb)						
Chloroform	ND 5	ND 5	(25)	ND 5	ND 5	ND 5
1,1,1-Trichloroethane		5 (ND 5)	ND 5	ND 5		
Bromodichloromethane		ND 5	5	ND 5		
Benzene			ND 5	(28)	ND 5	
Toluene				5	[150	
Chlorobenzene				ND 5	67	
Ethylbenzene				ND 5	1060	
1,2 & 1,4-Dichlorobenzene	ND 5	ND 5	ND 5	ND 5	76]	ND 5
Total Priority Pollutants	ND 5	5	(30)	(33)	(1353)	ND 5
NON PRIORITY POLLUTANTS (ppb)						
Chlorofluoromethane	10	ND 5	ND 5	ND 5	ND 5	ND 5
Dichlorofluoromethane	70	ND 5		ND 5		
Di-isopropylether	15	ND 5		ND 5		
Diethylether	ND 5	10 (20)		30		
2,4,4-Trimethylpentane		10 (10)		ND 5	ND 5	
Xylene Isomers		ND 5		15	2000	
Cyclohexane				ND 5	60	
Methylcyclopentane					30	
Cycloheptane					100	
Isopropylbenzene					90	
n-Propylbenzene				ND 5	150	
Ethyl Toluene Isomers				35	550	
Trimethylbenzene Isomers				ND 5	1400	
C9H10 Isomers	ND 5	ND 5	ND 5	ND 5	240	ND 5
Total Non Priority Pollutants	95	20 (30)	ND 5	(80)	(4620)	ND 5

Notes: ND = Not detected at or above minimum detection limit indicated.
Laboratory duplicates in parentheses.
If no entry, analysis was not requested.

Results of Preliminary Investigations and Sampling in Proposed New Jersey Turnpike Right-of-Way at the Bayonne Barrel and Drum Property

Newark, New Jersey

Submitted to:

New Jersey Turnpike Authority

P.O. Box 1121

New Brunswick, New Jersey

Submitted by:

Louis Berger & Associates, Inc.
100 Halsted Street
East Orange, New Jersey

December 1986

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1.0 INTRODUCTION

The New Jersey Turnpike Authority (NJTA) in anticipation of the need to acquire the property of Bayonne Barrel and Drum (BB&D), has initiated through their consultant, Louis Berger & Associates, a preliminary investigation of the site to determine its potential for environmental contamination.

The BB&D property has been identified by USEPA as an unpermitted hazardous waste storage facility (in violation of 40 CFR 264.34(a)). This subjects it to a consent order requiring the owner to establish the extent of contamination and to provide for its cleanup through an approved closure plan (see Appendix A for the consent agreement and the USEPA's investigations). The satisfactory completion of this process may be required to satisfy ECRA.

The scope of the investigation conducted by Louis Berger & Associates, Inc. was limited to a reconnaissance level soil and groundwater sampling program. The samples were taken either on, or in, close proximity to the proposed right-of-way and were tested for 127 priority pollutants plus 40 other possible pollutants. The priority pollutants are a broad cross-section of chemicals designated as toxic pollutants under Section 307(a)(1) of the Clean Water Act.

The results of the site reconnaissance were intended to indicate the areal extent of contamination in the proposed right-of-way and whether the levels of contamination require a site cleanup. It did not cover portions of the property not under consideration by the NJTA for the 1985-90 widening project.

This report provides a description of the site, the methods of investigation, the results of analyses and their interpretation. The report is not intended to serve as a comprehensive working document for purposes of preparing plans and specifications for any required cleanup. For this reason no specific recommendations have been prepared.

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2.0 SITE DESCRIPTION

Bayonne Barrel and Drum (BB&D) is located at 150 Raymond Boulevard in Newark, New Jersey. The property is bounded by Routes 1 and 9 on the west and north, the New Jersey Turnpike on the east, and the constuction site, previously the Newark Drive-In Movie Theater, on the south (see General Site Map, Figure 1). The site consists of three tracts designated 1, 2, and 3 which correspond to the land ownership as indicated by the City of Newark. Tract 1 is approximately 11 acres and encompasses the buildings, operations, storage areas, a shredded tire pile and the proposed right-of-way. Tract 2, located in the southeast part of the site, is 5 acres. It contains empty drums, an ash pile and other refuse. Tract 3, owned by the Turnpike Authority and adjacent to the Turnpike right-of-way, is 1.4 acres. It is partly covered by a pile of shredded tires.

2.1 Site Characteristics

The BB&D site is characterized by its location in an old flood-plain of the Passaic River. Topographically, the site is relatively flat with a slight undulating slope towards the east and northeast. Elevations on the property range from approximately 10 to 15 feet above sea level. Drainage follows the topography and empties into drains that traverse the eastern border of the site near the Turnpike's fence. The stormwater sewer system drains into the Passaic River. There is no natural surface water on the site.

The site currently contains a number of buildings which were utilized for drum reconditioning, an incinerator, above ground and underground storage tanks, shredded tire piles and a large empty drum storage area (Figure 1).

2.2 Current Owner/Operator

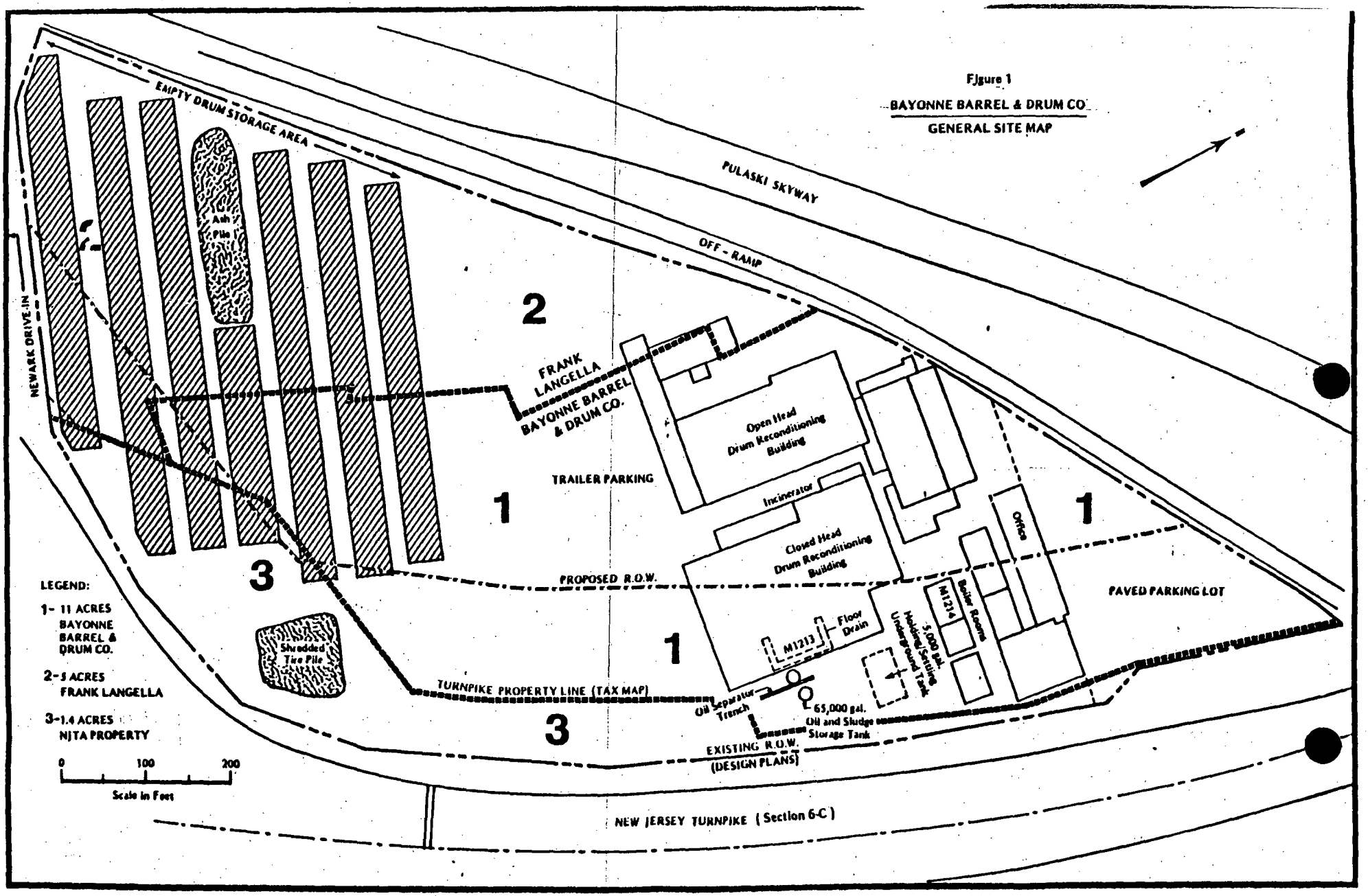
Tract 1 is owned and operated by Bayonne Barrel and Drum Company, Inc. The five acre Tract 2 is owned by the BB&D's principal owner Frank Langella, but is utilized as part of the BB&D facility. The Bayonne Barrel and Drum Company, Inc. filed a petition under Chapter 11 of the Bankruptcy Code (11 U.S.C. 101, et seq.) on July 13, 1982. The 1.4 acre Tract 3, is owned by the NJTA.

2.3 Status of the Property

Bayonne Barrel and Drum Company was a reconditioner of storage drums. Since it filed for protection under the bankruptcy acts, a portion of the property has been leased and is used to repair and maintain trailers and cargo containers. Currently, the New Jersey Tire Pyrolysis System Company is seeking financial assistance from the Essex County Improvement Authority for the purpose of financing the acquisition of the land and existing buildings at BB&D. This company plans to operate a tire pyrolysis system to produce saleable products.

The previous site activities included the cleaning and reconditioning of drums using caustic solutions and incineration. These operations produced large amounts of spent solution, incinerator ash and sludge. The storage of these waste products, as well as the storage of the drums awaiting reconditioning, provide the potential for hazardous waste contamination.

ATTACHMENT C-5



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As the operator of the site did not have a permit required under the authority of the Resource Conservation and Responsibility Act (RCRA) to operate a hazardous waste storage facility, a consent order was issued by the USEPA (Docket No. II RCRA-82-0115) charging BB&D with violating Sections 3004 and 3005 of the Act (see Appendix A). The consent agreement accompanying the consent order required Bayonne Barrel and Drum to take the following actions:

1. Submit a detailed soil and aqueous sampling plan.

2. Remove all hazardous waste piles and contaminated soil.

3. Submit a groundwater monitoring plan to determine if contamination of groundwater occurred and the extent and direction of movement of any contaminated plume.

4. Submit a closure plan that satisfies the requirements of RCRA under 40 CFR 265.112, 40 CFR 265.197 and 40 CFR 265.351.

After the consent order was issued, BB&D hired Dan Raviv Associates, Inc. to conduct a soil and groundwater monitoring program. The original sampling plan that Dan Raviv & Associates proposed in October, 1984 was later modified to reflect comments by USEPA and NJDEP. The modifications were agreed to in an exchange of letters during the summer of 1985. Though this program has been initiated, the extent to which it has been implemented and any results that were obtained has not been made known. Although the site is being monitored by the USEPA Region II, no actions are known to have been taken to proceed with any site cleanup.

Other than the consent order and agreement, no other violations, permits or enforcement actions are known to be in effect or pending.

2.4 Historical Use

The area encompassed by the BB&D property is believed to have been part of the tidal marshes associated with the lower reaches of the Passaic River. At some time the area appears to have been covered with fill. It is not clear to what extent this fill was dumped as waste, and what was placed there for construction purposes. Historical maps and air photos indicate that parts of the area now occupied by the Bayonne Barrel and Drum company have been used for drum storage/reconditioning since at least 1931. Additionally, substantial portions of the site have also been utilized for waste disposal.

The earliest reference to a drum recycling facility at the site is a 1931 Sanborn Atlas of Newark which shows an industrial facility operating at a site owned by the B & F Co., Inc. However, the buildings are labelled "tenant occupied". Most buildings are shown to be storage buildings. Crate and drum storages are located east of the original site buildings, outside the current site boundaries. Two of the smaller buildings are labeled as "drum cleaning" areas (Figure 2, Area A). The 1939 Newark Directory lists the Bayonne Steel Drum company with James Allen as President. The 1942

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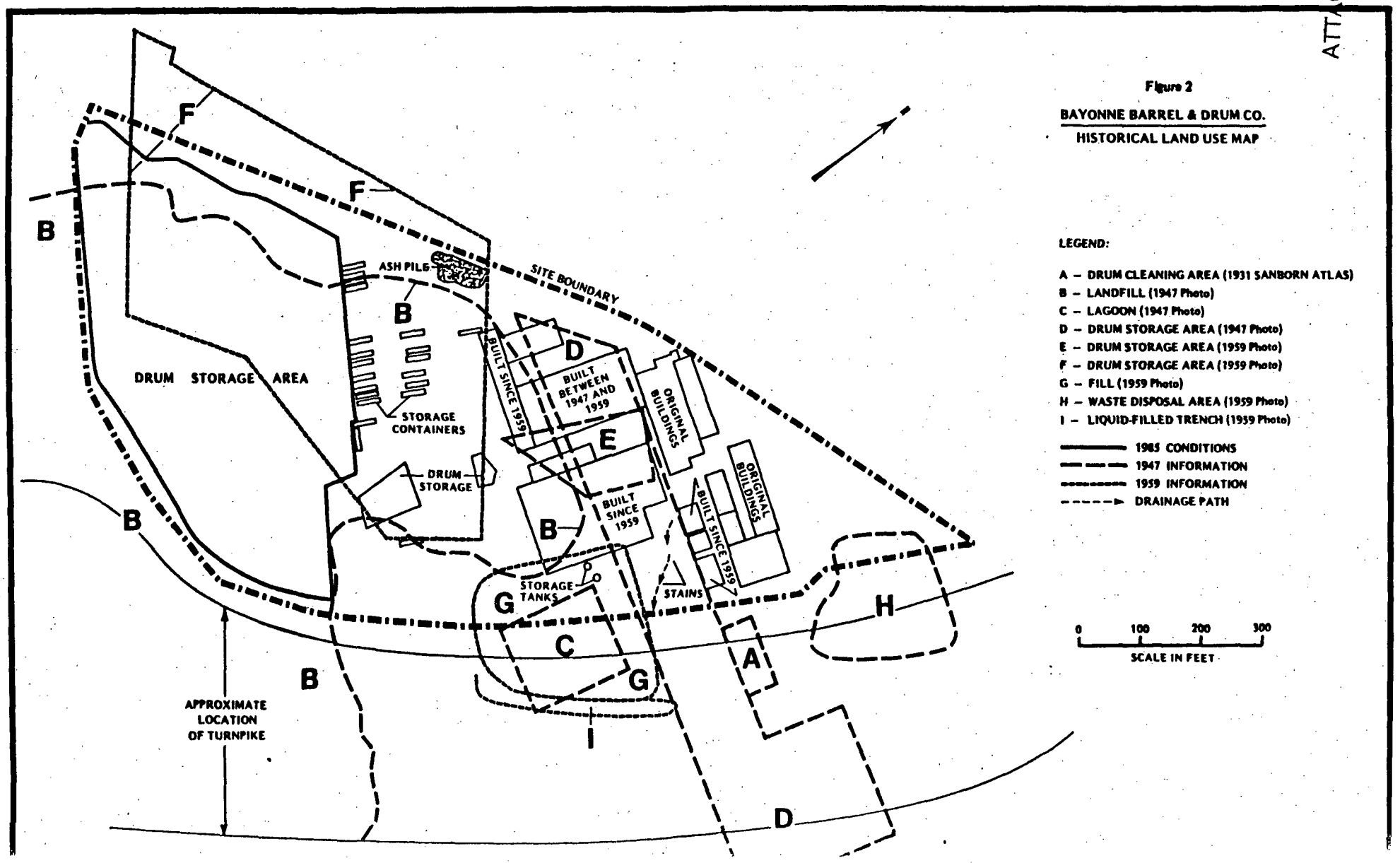

Newark Directory shows the same company with Frank Langella (the current owner) and David Pacrulli as owners. A 1943 Newark Directory indicates that the establishment's name was changed to its current name of Bayonne Barrel and Drum Company, but the owners are still listed as Mr. Langella and Mr. Pacrulli.

Aerial photographs from 1947 to 1985 document physical changes at the site. Figure 2 graphicly displays these changes. Following is a chronologic narrative of the significant changes that have impacted the site's present environmental setting.

1947 - Aerial photographs taken on April 28, 1947 show that portions of an adjacent landfill covered the southern two thirds of the current site area (B). A short road provided access between the drum storage facility and the landfill. One waste lagoon (C) was observed at the site in a location which straddles the current eastern site boundary. Drainage channels connected the lagoon to drainage channels leading southeast to the Passaic River. A large open storage area (D) was located south of the site buildings. Several thousand drums were stored in this area and ground stains were seen surrounding the drum stacks. A substantial portion of areas C and D are now overlain by the Turnpike.

1959 - The construction of the New Jersey Turnpike (Interstate 95) altered the pattern of drum storage at the site. Photographs taken on April 15, 1959 show that drum storage E had been moved to the site's southwest corner extending slightly beyond the current site boundary. A new building has been constructed and a small concentration of drums (F) was noted east of that building. The lagoon (C) previously seen along the site boundary has apparently been filled in (G). Additionally, a small waste disposal area (H) was located in the northeast corner of the site. Drainage ditches at the eastern edge of the site apparently drained into a liquid-filled trench (I) adjacent to the old lagoon location.

1985 - Recent photographs (July 3, 1985) show that the areal extent of open drums has decreased only slightly from that used in 1959. Six new buildings were noted in the site's northern area, and several storage containers (possibly truck trailers) were observed north of the drum storage area. An area of dark staining, indicating a recent spill, was seen at the eastern edge of the site. Ground stains were also observed in the drum storage area. A large mound of dark material (possibly ash) was seen at the western edge of the site. Waste disposal previously seen in the northeast corner of the site (1959) was no longer evident.

PHOTO SOURCES:

April 28, 1947 - Black and white aerial photographs at an approximate scale of 1"=1000' from Robinson Aerial Surveys, Inc., Newton, NJ.

April 16, 1959 - Black and white aerial photographs at an approximate scale of 1"=1500' from Robinson Aerial Surveys, Inc., Newton, NJ.

July 3, 1985 - Black and white aerial photograph at an approximate scale of 1"=1000' from HNTB engineering plans for 1990 NJ Turnpike widening.

A Foxboro Century Organic Vapor Analyzer (OVA), with a flame ionization detector, was also used as a screening device for the measurement of organic vapors during well development. During the drilling of monitoring well #2, OVA readings reached 400 deflection units.

3.1.2 Personnel Protection Equipment

The determination of protection levels was made by the Site Safety Officer. The information that aided in making the decision was the air quality measurements, the type of work being performed and the visual evidence of known and suspected hazards.

Based on PID measurements in ambient air, field personnel were suited to Level D protection. During the drilling of monitoring well #2, the field personnel suited up to Level C. This required the use of a half-face respirator with a particulate filter.

3.1.3 Decontamination Procedures

When leaving a site all personnel were required to decontaminate themselves and dispose of all nonreusable equipment. Boots were scrubbed clean on site with soapy water and dried. Tyvek suits and gloves, and air cartridges and filters were disposed of in trash bags. Exposed skin was washed with soap and water. All wash water was disposed of on-site.

3.2 Sampling Plan

For the reconnaissance-level investigation conducted, sampling of soils and of groundwater was planned. The sampling locations for both soils and groundwater are shown on Figure 3. The soil sampling sites are designated by a five character alpha numeric code. The groundwater monitoring wells are identified as MW2 and MW3. Well MW1 occurs on the adjacent drive-in movie property which is not addressed in this report. The rationale for sample locations and the methodology employed for soil sampling and for groundwater sampling are discussed in the following sections as well as the physical description of the material encountered during sampling.

3.2.1 Soils

The determination of the soil sampling points was based on both random and biased sampling. Random sampling methodology was employed for all the discrete samples that were taken and the composite sample locations were chosen by biased sampling. The random sampling methodology was performed by dividing the area at BB&D that is within the Turnpike's proposed right-of-way into a grid of 30 blocks, assigning numbers to each block, and then statistically selecting blocks for sampling point location by using a table of computer generated random numbers. When the number of matching numbers equalled the predetermined number of samples to be taken, the process was stopped. For the purpose of preparing the sampling plan no division was made between property currently owned by NJTA and that owned by Bayonne Barrel & Drum. The area within the fenceline is being operated as a single entity irrespective of property lines and the purpose of the investigation was to determine the level of contamination in the construction area.

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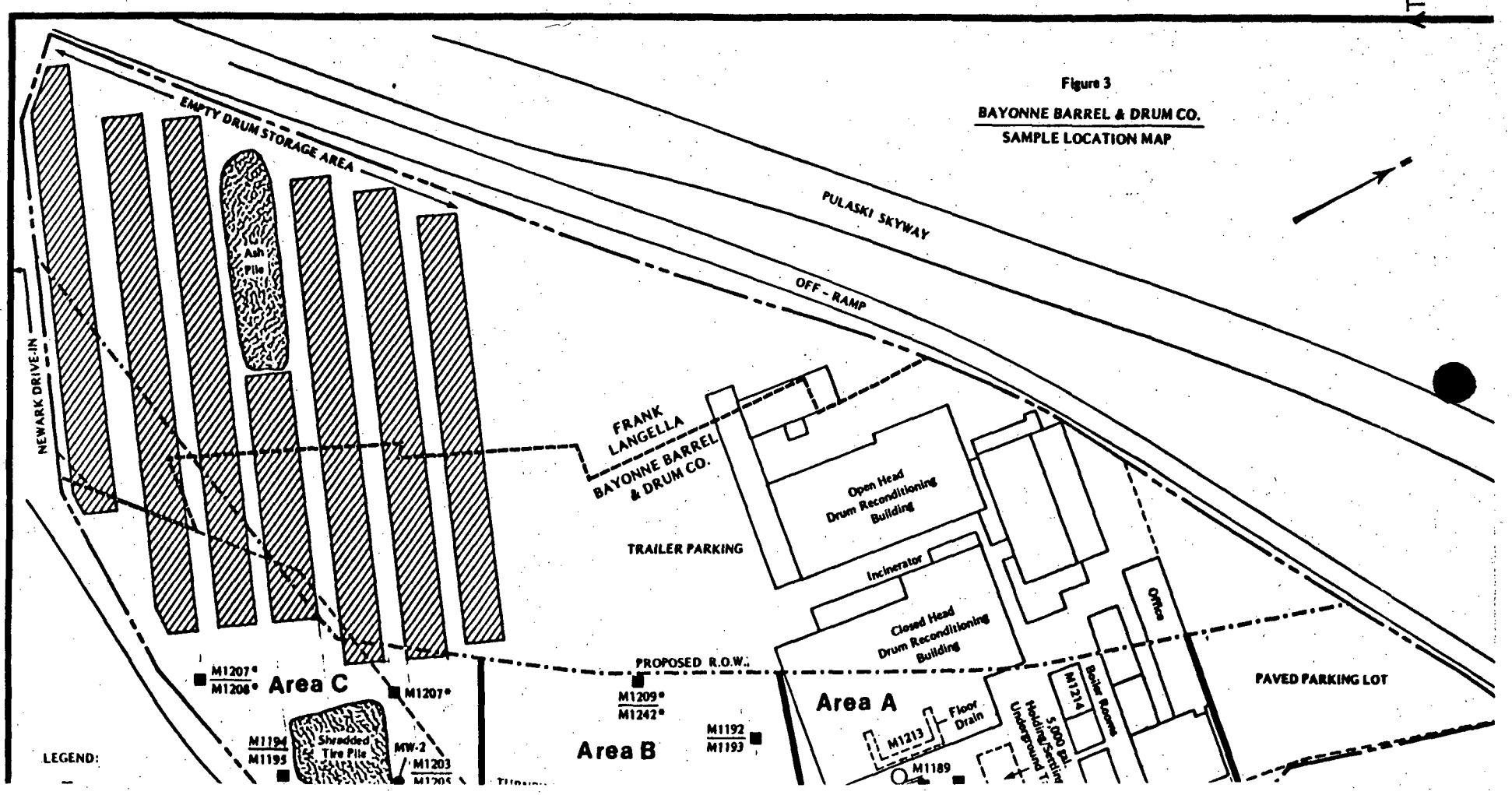

Figure 3

BAYONNE BARREL & DRUM CO.

SAMPLE LOCATION MAP

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The biased sample locations were selected due to site specific criteria: drainage, previous land use, and location of random samples. Nearly all surface and subsurface runoff within the proposed right-of-way flows to the storm sewer that transects the eastern border of the site. Therefore, any leachate emanating from the drums or ash pile as well as contaminants leaking from the surface and subsurface storage tanks in the northeast part of the site were intercepted by the soil borings.

The number of samples to be taken was based on a field investigation of the site, historical land use, and USEPA's investigations. Because the purpose of the site reconnaissance investigation was to determine whether the site is contaminated or not, and if so by what, it was decided to take 5 discrete samples at two different depths, 0-18 and 18-36 inches below land surface, for a total of 10 discrete samples. Two composite samples, comprised of three (3) different sample locations each at two distinct depths, were collected for a total of four composite samples. Due to local conditions, there were six discrete 0-18 inch samples taken and only four 18-36 inch samples. Of the four composite samples, one of the two 18-36 inch samples was comprised of only two samples.

Sediment samples, comprised of sediment collected from the floors, floor drains and scrapings off the walls of the buildings, were taken from locations inside the closed drum reconditioning building and in the boiler room. Each building sample was composed of five separate samples.

Discrete or grab samples are retrieved at a single point. Composite samples are samples comprised of two or more discrete samples taken at several different horizontal or vertical locations. The composites at BB&D were taken at three different horizontal locations and composited in the laboratory where the analyses were performed.

Compositing is performed during site reconnaissance when the nature and the extent of the contamination is unknown. It allows for determining the general areal extent of contamination and the nature of the contamination without requiring extensive sampling. The disadvantages are that the compositing may reduce contaminant levels to safe levels. By diluting a contaminated sample with two relatively clean samples the source of contamination is unknown. Another disadvantage is that volatile chemicals in a sample are lost during the compositing process. Compositing is never used when point specific chemical data is needed. Therefore, by discriminately using both discrete and composite samples, the general areal nature and extent of the contamination was able to be assessed. The vertical sampling at 0-18 and 18-36 inches below ground surface was intended to demonstrate whether only the surface material was contaminated, or if vertical migration of contaminants had occurred.

The actual number of composite samples was greatly reduced with respect to the sampling plan originally proposed. Discussions with NJDEP officials indicated a strong reluctance to accept results from composite samples due to the problems stated above. The sampling method adopted presented the best compromise between obtaining a sufficiently wide coverage of the area while having a reasonable number of discrete samples to support our findings to NJDEP.

Discrete soil samples were also taken during installation of the monitoring wells at depths above and below the water table. It was decided to limit the number of samples analyzed to six from both the Bayonne Barrel & Drum and the Newark Drive-In Movie Site. Therefore, 24 inch samples were taken every five feet and examined. Based on this, the following four samples were analyzed and the remainder discarded. At monitoring well #3 only one sample was analyzed, from 0-18" below land surface (b.l.s.), because of the poor recovery below the water table. For monitoring well #2, three discrete samples were analyzed, one above the water table and two below the water table. The depths were 3-5 feet, 13-15 feet and 17 1/2-19 1/2 feet b.l.s., respectively. The boring logs for the monitoring well are presented in the Groundwater section.

3.2.1.1 Sampling methods

A split spoon was used to retrieve all soil samples, including those in the monitoring well boreholes. It is composed of carbide steel, and is 24 inches long with a 2-inch outer diameter. The method for collecting samples using the split spoon is as follows:

a. Assemble the sampler by aligning both sides of the barrel and then screwing on the bit on the bottom and the heavier head piece on top.

b. Place the sampler in a perpendicular position on the material to be sampled.

c. Drive the sampler utilizing a sledge hammer (140 lb. weight with a 30" drop when using the well rig for sampling in the boreholes).

d. Record the length of the tube that penetrated the material (also the number of blows needed to reach that depth when using the well rig).

e. Withdraw the sampler, and open it by unscrewing the bit and the head piece and then splitting the barrel.

f. Record the physical description of the material and place it into the appropriate sample containers.

g. Decontaminate sampler using procedures outlined in Appendix C. In some locations where the split spoon sampler could not penetrate the material, a motor driven auger was used to break up the material, and the sample was taken using dedicated plastic scoops. This normally occurred at the surface where compaction of the material was most severe.

A description of materials encountered at each sample site are shown in Table 1.

3.2.1.2 Sample containers

Soil samples were taken from the sampler and placed in containers that have been determined by the USEPA to be adequate for the types of analyses the

Table 1

SOIL BORING DESCRIPTIONS

A. Discrete Soil Samples

Boring #	Depth (Inches)	Soil Description
M1188	0-8	Black muck, some gravel; oily odor
M1189	0-18	Brown silt and gravel
M1190	2- 8	Dark brown silty sand; friable
	8-13	Dense silty sand, trace glass
	13-18	Dark black sandy silt, some fill (plastic, china, whitish silica based material)
M1191	18-24	Brownish, black silty sand; some fill (asphalt glass, plastic, waste concretions)
	24-30	Same with trace plastic
	30-36	Fill (slag, glass, iron/sand concretions); distinct petroleum odor.
M1192	0-18	Dense black sand and fill (plastic, brick, slag)
M1193	18-24	Black silt; some fill (brick, glass, cardboard)
	24-36	Same with asphalt and wood; moist
M1194	0-7	Gravelly, f-m sand, trace glass
	7-12	F-m brown sand
	12-17	C gravel and c-m white sand; moist
	17-18	Orange-brown silty clay; trace organic smears
M1195	18-26	F-m brown silty sand
	26-29	Same, trace asphalt-like material
	29-33	Fill (greyish-black asphalt-like material and coarse fragments with trace black smears)
	33-36	Dense sand and gravel; some conglomerate, moist
M1196	0-7	Brownish black silty sand, some gravel, little asphalt
	7-14	Same with some asphalt
	14-18	Reddish brown silt and fill (brick conglomerate, trace asphalt)
M1197	18-25	Black sandy clay and fill (asphalt, brick)
	25-31	Fill (brick, coarse fragments (>1.5"), concretions, trace plastic)
	31-36	Brownish black silt, little black smears and weathered brick. Distinct petroleum odor.

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Table 1 (continued)

Boring #	Depth (Inches)	Soil Description
B. Composited Soil Samples		
M1207 (6A)	0-4	Dark brown silty sand, some slatey coarse fragments, trace asphalt-like material
	4-8	Same, but more orange-colored sand with little coarse fragments and trace glass.
	8-14	Same, some whitish sand with little black streaks, trace glass
	14-18	C white sand and m-c brown sand, trace black smears, little cemented, rusted fill; moist
M1208	18-24	Gravelly m-c brown sand
	24-30	C white sand, some orange brands & trace pebbles
	30-36	Same, some coarse fragments, trace black streak
M1207 (6B)	0-4	Greyish brown silty sand, trace orange-green streaks
	4-10	Same, black with some fill (glass and wood)
	10-18	Fill (Asphalt-like matrix, some white specks and orange material, trace wood and glass)
No 18-36 inch sample taken for composite M1208 at 6B.		
M1207 (6C)	0-8	Brownish, black silty sand, some coarse frags.
	8-15	Same, some broken brick and asphalt-like material. Slight petroleum odor.
	15-18	Orange, brown silty sand and gleyed silty sand, trace brick and black streaks.
M1208	18-24	Black sandy loam; distinct oily texture and odor
	24-30	Dense sandy loam, some fill (brick, plastic): distinct petroleum odor.
	30-33	Sandy loam and fill (glass, wood, asphalt-like material, paint streaks); distinct oily odor
	33-36	Same, little plastic, some wood, distinct odor
M1209 (7A)	0-6	Sandy loam; little orange streaks, brick; weak petroleum odor.
	6-12	Dense sandy loam, trace white flakes & black laminates; strong petroleum odor.
	12-18	Fill (asphalt-like material, white flakes, green and red streaks, glass, sand concretions).
M1242	18-22	Black sand, some pebbles and fill (asphalt-like material, plastic, glass)
	22-30	Fill (glass, pebbles, wood fibers, green marl, brick
	30-36	Same, little dense red clay, petroleum-saturated

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Table 1 (continued)

Boring #	Depth (Inches)	Soil Description
11209	0-4	Black sandy loam, trace small pebbles; friable
7B)	4-8	Same, some fill (Slag, brick and glass)
	8-14	Same, little rainbow colored bands; moist
	14-18	Fill (asphalt-like material); trace oily odor.
11242	18-24	Fill (same, but little wood); slight oily odor
	24-30	Fill (asphalt-like material, white coatings, spongy material, sand and other)
	30-36	Same, all black trace-white coatings. Weak oily odor.
11209	0-10	Black sandy silt and m-c gravel
7C)	10-14	Fill (asphalt-like substrate, trace slag)
	14-18	Same, little orange coated slag; distinct petroleum odor.
11242	18-24	Fill (wood fibers, asphalt-like material, glass, slag); moist; distinct petroleum odor.
	24-30	Same
	30-36	Same, some brick

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sample is to undergo. These containers and the types of analyses they are appropriate for are defined by EPA in 40 CFR part 136 for aqueous samples and EPA's *manual of Test Methods for Evaluating Solid Waste (SW 846; July* 1982) for soil/sediment samples. The sample containers were prepared by Environmental Testing and Certification (ETC), the analytical laboratory used, and placed in preconfigured insulated and cooled shuttles.

The soil samples at BB&D were analyzed for 127 priority pollutants plus the next 40 highest peaks that were detected on the gas chromatograph. "Peak" is the parameter that defines concentration. By allowing for analysis of forty constituents that might have escaped detection if only target chemicals were specified, greater flexibility was incorporated into the analytical plan.

The term "priority pollutants" describes the pollutants' relative frequency of occurrence at potential hazardous waste sites, and represents a cross-section of inorganic and organic chemical groups. The 127 priority pollutants are the substances designated as toxic pollutants under Section 307(a)(1) of the Federal Clean Water Act (43 CFR 4108, January 1978), and are depicted in Table 2. In this table, NPDES is an abbreviation for National Pollutant Discharge and Elimination System. CAS stands for the Chemical Abstract Service, while MDL is the Minimum Detection Limit for each compound, measured in micrograms (10^{-6} grams) per liter of sample being tests.

3.2.2 Groundwater

Samples of groundwater on the BB&D site were obtained from two wells along the eastern boundary. The objective in locating these two wells was two-fold: first, to ascertain whether groundwater contamination existed, and second, to see if there were noticeable differences in the nature and degree of contamination. If there were marked differences in either of the two factors, one or all of the following conditions may exist: different sources of contamination (i.e. leaking drums or leaching ash piles), unconnected hydrologic systems, or varying proximities to a single contaminant source. Both wells were downgradient of the potential contaminant sources on the site. Background conditions or the exact direction of groundwater flow could therefore not be determined. This data is not needed until contamination has been verified. If contamination is detected, then at a minimum the installation of an upgradient well and one more downgradient well will be needed.

3.2.2.1 Monitoring Well Installation

The installation of both monitoring wells 2 and 3 was performed in accordance with NJDEP's Bureau of Groundwater Management recommended procedures. Though not required for this investigation, adhering to these procedures will insure their acceptance as New Jersey Pollutant Discharge Elimination System (NJPDES) monitoring wells, should the site prove to have contaminated groundwater. A NJPDES permit is required by owners/operators of sites that have the potential to be discharging effluent (i.e., contaminated leachate) to the groundwater.

The borehole for installation of the monitoring wells was made by a hollow stem auger attached to a well rig. The auger was steam cleaned prior to use and between wells. It was scaled with chalk to every 6 inches to determine the sample depth. Samples were taken at the last two feet of every 5 foot segment (i.e. 3-5 feet, 8-10 feet below land surface). The results of the boring logs for the monitoring wells are in Appendix D. Both boreholes had distinct petroleum odors with significant amounts of tarlike material.

Approximate depth of hole and depth to water table were made using a weighted string. Borings were generally made to a depth of 10 to 12 feet below the water table. After the hole was bored to the desired depth, the augers were disconnected from the rig but left in the hole to support the sidewalls. The hole was flushed clean of soil cuttings using a roller bit and pressurized potable water. The flushing operation ceased when the water discharging from the hole was clean. The roller bit was then removed from the hole, and the well screen installed into the borehole with the hollow stem auger still in place. The 4 inch O.D. (outer diameter) PVC well screen had a plastic cap attached to its bottom and was threaded into a 4 inch O.D. well casing at its top before placing it into the borehole. The top of the casing rose to approximately two feet above the ground surface. The area between the borehole walls and the well screen (the annular space) was filled with #2 Morie sand to maintain a good hydraulic connection between the aquifer material and the well screen. The auger was slowly lifted out of the borehole as the annular space was being filled. Eventually the auger was removed and the sand was emplaced until it was 6-12 inches above the well screen. A bentonite/cement grout was then injected into the hole until it was flush with the ground surface, and a 6" O.D. steel casing placed over the inner casing and set into the sealant (bentonite/cement mixture). Next, the steel casing was locked and security posts were placed around the well. All materials and specifications for monitoring wells 2 and 3 are detailed in Appendix D along with their permits from the Bureau of Water Allocation.

3.2.2.2 Well Development

Well development took place soon after installation of the wells, in order to create a good hydraulic connection between the aquifer and the well screen. Development of a monitoring well can be accomplished by a variety of methods and equipment. A well is satisfactorily developed when pumping the well yields a sand-free discharge.

Monitoring well #3 was developed with a hand bailer until the well went dry. Its discharge was extremely turbid but did not contain much sand. Monitoring well #2 was developed by pumping with a suction pump for approximately 20 minutes at a rate exceeding 10 gpm. Its discharge was relatively turbid free.

3.2.2.3 Groundwater Sampling

Seven days after the wells were developed, but prior to their sampling for chemical analyses, samples were collected and tested for total organic carbon (TOC), and if turbid, for grain size distribution of the sediment. (Measuring these constituents is recommended by the USEPA for assessing the integrity of monitoring well installation and development on RCRA sites.)

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The water was purged from each well using a bladder pump with a check valve for regulating discharge. The purge water for sediment size distribution was collected in glass containers, while the TOC samples were collected in the appropriate container and preserved. All containers and preservatives used for storing groundwater samples after collection were laboratory cleaned and composed of materials appropriate for the intended analyses in accordance with 40 CFR 136. The appropriate containers for each type of analyses is listed in Appendix C. The analyses for both parameters were performed the next day. The results of the grain size distribution and TOC analyses indicated that the majority of the purge water was silt, clay and organic material with very little sand.

Samples for chemical analyses were collected from the monitoring wells after evacuating a minimum of 3 times the volume of standing water in each well with a bladder pump. This was to insure that only fresh, nonstratified aquifer water was being sampled. The polyethylene tubing placed into each well for evacuation was dedicated to that well only. The depth to water and the depth of well were measured before sampling to determine the volume of water in each well using an oil/water interface meter.

Prior to and after evacuation of each well, field measurements were taken of several parameters that are usually considered controlling variables of the chemical speciation found in water quality analysis. The parameters are also signatures of the water that help determine whether the water recovered in a well is stable after evacuation, compared to the water previous to evacuation. The results of the field measurements are in Table 3. These parameters and the methods for measuring them are as follows:

- pH - A measure of the hydrogen ion concentration in the water. Measured with a Beckman 21 pH meter calibrated in the field with standard pH solutions of 4 and 7. Initial pH's were taken of water pumped from the well during purging (evacuation) and of the water collected from sampling. Water samples used for measuring pH were not kept for further chemical analyses.

- Salinity - Measures the total salt content in the water to determine whether it is fresh, brackish or saline. Measured in each borehole before purging and after sampling with a YSI #33 S-C-T meter. Neither well had saline water.

- Conductivity - An indirect measure of the total dissolved solids in solution. The measurements are in micromhos, a unit indicating the conductivity of the solution and therefore all ionized species. The micromhos units can be converted to mg/l of total dissolved solids by using a conversion factor (0.55 to 0.90) that is based on the source of the water and the types of charged chemical species that dominate the solution. Conductivity was measured the same way as salinity.

- Temperature - Measured in each borehole prior to purging but after sampling using the YSI S-C-T meter.

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Table 3

FIELD MEASUREMENTS OF PARAMETERS AT
MONITORING WELLS 2 AND 3

	MW2	MW3
Date	5/27/86	5/27/86
Time	10:00 a.m.	1:27 p.m.
Water Level	3.67'	3.72'
pH (units)	7.24	8.35
Salinity (ppt)	1.0	0.5
Conductivity (micromhos/cm)	1,500	1,300
Temperature (°C)	14	19
Immiscible Layers		
Light Phase	No	No
Dense Phase	No	No
Total Organic Vapors (ppm)	400	350
Total Organic Carbon (mg/l)	61.5	37.5

Source: Louis Berger & Associates, 1986.

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Immiscible Layer Measurements - Immiscible layers are concentrations of organic liquids that are insoluble in water and therefore form a distinct layer above the water table and/or at the bottom of a borehole. Where layers of either light or dense phase immiscibles are detected, separate samples of these layers will be taken. These measurements were made prior to purging and just before sampling with an oil/water interface sounding probe (Oil Recovery Systems - Interface Meter, Model 100EN/M) that transmits a steady beep when hitting an immiscible layer and in intermittent beep when in water.

Measurements in both monitoring wells indicated no distinct immiscible layers.

- Depth to water and depth of well measurements were made during development of each well, prior to evacuation, during recovery of the well and before and after sampling using the oil/water interface probe. Measurements were made to the nearest 0.01 foot.

All sampling of groundwater was performed using 36 inch long, teflon coated, single-bottom, check-valve bailers dedicated to each well. They were cleaned by the laboratory doing the chemical analyses and wrapped in autoclaved tinfoil. The wire used to rinse and lower each bailer was also teflon coated. The sampling procedures were as follows:

a) Each well was allowed to recover after purging, and sampling began when the water had risen to within 0.1 feet of water level prior to purging.

b) Each bailer was removed from tinfoil, tied to teflon coated wire which was connected to a circular spindle, and lowered into the corresponding well.

c) Volatile organics (VOA's) were sampled first by lowering the bottom of a bailer until it was entirely submerged below the water surface so as to sample any light phase immiscibles. Extreme care was taken when lowering and raising the bailer so as not to degas the sample. The sample was then transferred into the sample container by pushing the ball check-valve located at the bottom of the bailer upward with a finger and allowing the water to flow into the container. No air bubble or head space was left in the VOA containers.

d) The same method as (c) was used to collect samples for all other analyses but at depths in each well ranging from 18 to 48 inches below the water surface. Samples retrieved for metals analysis were first filtered through disposable 0.45 micrometer pore size cellulose acetate filters, and then stored in the appropriate containers and preserved. This is to minimize the effect that the sediment might have on the concentration of the metals in solution while the sample is awaiting analysis. The result of the analysis is reported as total dissolved metals.

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e) After a sample was collected, depth of water, salinity, conductivity and temperature were measured and recorded. After removal of all probes, the plastic cap was fitted to the top of the inner casing and the steel protective casing was locked.

The groundwater samples collected and preserved were analyzed for the 127 priority pollutants plus 40 peaks. A listing of the priority pollutants categories are provided in Table 2 of Section 3.2.1.3.

3.3 Quality Assurance

The chain of custody is a quality assurance/quality control (QA/QC) measure to provide for the integrity of the sampling and analytical process. Chain of custody procedures were carried out in accordance with NJDEP and USEPA guidelines. The chain of custody forms used for each sample are contained in Appendix C.

All data on types of chemicals and their levels reported by ETC Laboratories have been critically evaluated with respect to data acceptance criteria which include accuracy, precision, representativeness, completeness and reliability. The evaluation was done according to NJDEP's guidelines for these criteria.

The data were found to meet these criteria with a few exceptions. The data are presented in the enclosed tables. Those data which did not meet the above mentioned criteria for acceptance are flagged with USEPA's data qualifier code letters. The qualifier codes are annotated and the code letters with annotations written next to the qualified data. Definitions of codes are presented at the bottom of Tables 5, 6 and 7 showing related data. Thus, concentrations of analytes flagged with code "J" are to be considered estimated concentrations.

The samples were analyzed for 127 priority pollutants plus 40 peaks. The tables show only those compounds which were "hits" in any of the samples. Compounds not detected in any sample are not included.

Data related to the volatile organic fraction meets our quality assurance criteria except for methylene chloride. Reported levels of methylene chloride are to be treated as estimated concentrations.

Data related to acids and base/neutral extractable compounds, metals, total phenolics and total cyanides meet acceptance criteria.

All concentrations reported for pesticides and PCB's are to be considered estimated concentrations. These compounds were found in the soil samples, but not in any of the water samples (see Tables 5, 6 and 7). The laboratory had difficulty in analyzing for these parameters due to matrix interference and had to repeat extraction and analyses. However, reextraction was done past the time limit allowed by NJDEP. The laboratory will obtain a decision from USEPA/NJDEP to allow acceptance of these results as valid. In the meantime these data could be used in characterization of the site.

4.0 RESULTS OF ANALYSES AND CONCLUSIONS

The sampling area has been divided into three sections for the purpose of relating chemical results to site characteristics. Area A covers the buildings, above and below ground tanks and the oil/water trench. Monitoring well #3 is in this area. Area B encompasses the dock area, trailer storage and the storm sewer system. No monitoring well is in this area. Area C includes the shredded tire pile, part of the storm sewer system, and is directly down gradient of the drum storage area. Monitoring well #2 is located in Area C.

Results of soil and water analyses from samples taken from the BB&D property are presented in Tables 5, 6 and 7 and correspond to Areas A, B and C, respectively. Table 4 depicts the cleanup level criteria used by the NJDEP's Bureau of Industrial Site Evaluation (BISE) to determine if a cleanup action should be taken. BB&D is currently being regulated by USEPA under RCRA, but the BISE cleanup levels provide a measure against which the results may be judged. Many of the parameters do not have specific criteria to be judged by, but instead are included in the totals for a whole group of contaminants that have a single cleanup level. Other parameters, such as acid extractable organics in soils do not have any clean-up criteria. The location of the results that exceed the BISE clean-up levels are summarized in Figure 4, along with their respective parameters.

Specific levels for many of the parameters in the USEPA Priority Pollutant List (Table 2) for both soil and groundwater are currently being developed, and may be applicable to this site when they are approved in the Federal Register.

As noted in Section 3.3 all concentrations reported for pesticides and PCB's are to be considered estimated or provisional. The analysis procedures did not meet USEPA and NJDEP Quality Assurance requirements. The laboratory will either have to obtain written confirmation from these agencies of their validity or resampling and reanalysis will be undertaken at the laboratory's expense. However, for the purpose of general description of contamination at the site they are considered valid, as the infringement was of a technical nature.

As previously indicated each sample was analyzed for the 127 "priority pollutants," a list of specific chemicals, and the results were fully quantified. In addition a search was made for other chemicals present with the highest concentration. Attempts were made to identify a total of up to 40 other chemicals, including 15 volatile organics, 15 base/neutral extractables, and 10 acid extractables. These concentrations are only reported in a semiquantitative form, and therefore only represent a rough estimate of the concentrations of the chemicals found.

The full laboratory analysis reports (NJDEP Tier II format) have been reviewed by our QA Coordinator and are maintained in our document control system. They are available for review upon request.

4.1 Soils

Area A

Priority pollutant heavy metals were the most significant contaminants in all three soil samples (M1188, M1189 and M1198) in Area A. Samples M1188 and M1189 had levels of cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg) and zinc (zn) all exceeding BISE cleanup levels (Cr in sample M1188 was 99 mg/kg which is 1 mg/kg below the cleanup level). Sample M1198 had only excessive levels of lead with all other priority pollutant metals below cleanup levels.

The source of these metals may be from the impurities in the reconditioned steel drums which are removed during the incineration process. The ash from the incineration concentrates these metals which can then be leached. Other sources can be from the drum reconditioning building and overflows from the oil/water trench which also contains metal from the incinerator leachate. The levels found in LB&A's investigation are lower than those detected by the USEPA analysis of the ash pile and soils near the incinerator but consistent with those findings (see Appendix A). Where metal concentration in ash and incinerator soil was in the hundreds to thousands (mg/Kg) the soil near the settling and holding tanks was in the tens to hundreds (mg/kg) range.

Area A had surficial soils (0-24") with excessive levels of organic contaminants. The organics in high concentration were polycyclic aromatic hydrocarbons (PAHs) and phthalates from the base/neutral extraction group. The total concentration of all priority pollutant base/neutral organics exceeded 110 mg/kg (see Table 5), with the phthalates comprising over 85% of the total. When additional peaks of the non-priority pollutants are figured in the total, the diversity of organic compounds increases to include other aliphatic and monocyclic aromatic hydrocarbons besides phthalates. In sample M1188, alkanes, a group of aliphatic hydrocarbons registered at over 76 mg/kg, while total monocyclic aromatic hydrocarbons which includes the tri and dimethyl benzenes exceeded 58 mg/kg. Both of these classes of chemicals were conspicuously absent in sample M1189 which is only 30 feet south of M1188. Sample M1198, taken from the first two feet of soil of monitoring well #3, also had low levels of nonpriority pollutants, except for alkanes, which were over 2.6 mg/kg. (Note: Results of non-priority pollutants are semiquantitative and useful only in indicating their presence and general level of concentration.)

There are no BISE criteria for cleanup levels of base/neutral extractables in soil, but polycyclic aromatic hydrocarbons are either known or suspected carcinogens and are included in the range of constituents found in sample M1188. There were no other excessive levels of contaminants in any of the soil samples in Area A, except for PCB's in sample M1188, at a concentration of 19.1 mg/kg. The BISE cleanup criteria for PCB's in soils is 1-5 mg/kg while USEPA does not regulate PCBs with a concentration of less than 50 mg/kg.

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TABLE 5
SUMMARY OF AREA A CHEMICAL ANALYSIS RESULTS

Sample #	M1188	M1189	M1198	M1213	M1214	M1215
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	25-Apr	25-Apr	05-May	26-Apr	26-Apr	27-May
Depth	0-18"	0-18"	0-2'			
Composite/Discrete	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	X	X	W
VOLATILE ORGANICS						
PRIORITY POLLUTANTS						
Benzene	ND	ND	ND	NA	NA	ND
cis-1,3-Dichloropropylene	ND	ND	ND	NA	NA	ND
Ethylbenzene	28.10 J2	ND UJ1	ND UJ1	NA	NA	ND UJ2
Methylene chloride	158	ND	ND	NA	NA	ND
Tetrachloroethylene	ND	ND	ND	NA	NA	ND
Toluene	33	2	ND	NA	NA	ND
Totals	219.1	2	0	NA	NA	0
ADDITIONAL PEAKS (SEMI-QUANTITATIVE)						
2-Methyl hexane	ND	ND	ND	NA	NA	ND
2-Pentanone, 4-Methyl	ND	ND	ND	NA	NA	ND
2-Propanones	ND	ND	ND	NA	NA	ND
3-methyl benzene	ND	ND	ND	NA	NA	ND
3-Methyl pentane	ND	ND	ND	NA	NA	ND
4-Ethyl 2-Pentanone	ND	ND	ND	NA	NA	ND
4-Methyl 2-Pentanones	ND	ND	ND	NA	NA	ND
Acetone	ND	ND	ND	NA	NA	ND
Alkanes	50	ND	ND	NA	NA	ND
Alkyl benzene	ND	ND	ND	NA	NA	ND
Benzene ethenyl-methyl	ND	ND	ND	NA	NA	ND
Benzene, 1,2,3-trimethyl	ND	50	ND	NA	NA	ND
Cycloheptane, methyl	89	ND	ND	NA	NA	ND
Cyclohexanes, 1,1,3-trimethyl	ND	ND	ND	NA	NA	ND
Cyclohexane, 1,1-dimethyl	76	ND	ND	NA	NA	ND
Cyclohexane, 1,3-dimethyl	64	ND	ND	NA	NA	ND
Cyclohexanes, 1,3-dimethyl, cis	ND	ND	ND	NA	NA	ND
Cyclohexanes, 1,3-dimethyl,trans	ND	ND	ND	NA	NA	ND
Cyclohexane,1,1,3-trimethyl	ND	ND	ND	NA	NA	ND
Cyclohexane,1,2-dimethyl,cis	ND	ND	ND	NA	NA	ND
Cyclohexane,1,2-dimethyl,trans	ND	ND	ND	NA	NA	ND
Cyclohexane,1,3-dimethyl,trans	ND	ND	ND	NA	NA	ND
Cyclohexane,1,4-dimethyl,cis	ND	ND	ND	NA	NA	ND
Cyclohexane,1-ethyl-4-methyl cis	ND	ND	ND	NA	NA	ND
Cyclohexane,1-ethyl-4-methyl trans	ND	ND	ND	NA	NA	ND
Cyclohexanone, 3,3,5-trimethyl	ND	ND	ND	NA	NA	ND
Cyclooctane, butyl	176	ND	ND	NA	NA	ND
Cyclopentane, methyl	ND	ND	ND	NA	NA	ND
Cyclopentane,1,3-dimethyl,trans	ND	ND	ND	NA	NA	ND
Dimethyl benzenes	ND	ND	ND	NA	NA	ND

J2= Estimated concentration due to %RDS for response factor in intial calibration higher than 30%
ND = Not Detectable
UJ1 = Estimated quantitation limit 13ug/kg
UJ2 = Estimated quantitation limit 16.3ug/l

NA = Not analyzed for this parameter

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TABLE 5 (CONTINUED)
SUMMARY OF AREA A CHEMICAL ANALYSIS RESULTS

#	M1188	M1189	M1198	M1213	M1214	M1215
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Submission	25-Apr	25-Apr	05-May	26-Apr	26-Apr	27-May
	0-18"	0-18"	0-2'			
te/Discrete	D	D	D	C	C	D
)/Water (W)/Sediment (X)	S	S	S	X	X	W
E ORGANICS ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED						
l cyclohexane	ND	ND	ND	NA	NA	ND
l cyclopentane	ND	ND	ND	NA	NA	ND
l-3-hexene	ND	ND	ND	NA	NA	ND
1,1'-oxybis	ND	ND	ND	NA	NA	ND
ethyl benzene	ND	ND	ND	NA	NA	ND
, methyl	ND	ND	ND	NA	NA	ND
rbons	ND	ND	ND	NA	NA	ND
cyclohexane	ND	ND	ND	NA	NA	ND
es	ND	ND	ND	NA	NA	ND
enes	ND	ND	ND	NA	NA	ND
, 3-methyl	ND	ND	ND	NA	NA	ND
s, methyl	ND	ND	ND	NA	NA	ND
benzene	ND	ND	ND	NA	NA	ND
	ND	ND	ND	NA	NA	ND
ACID EXTRACTABLES						
PRIORITY POLLUTANTS						
ophenol	ND	ND	ND	ND	ND	ND
hlorophenol	ND	ND	ND	ND	ND	ND
ethylphenol	230	ND	ND	ND	ND	21.9
lorophenol	ND	ND	ND	ND	ND	ND
	210	ND	ND	708	360	ND
richlorophenol	ND	ND	ND	ND	ND	ND
Totals	440	0	0	708	360	21.9
BASE/NEUTRAL EXTRACTABLES						
PRIORITY POLLUTANTS						
thene	ND	ND	ND	ND	ND	2.3
thylene	ND	ND	BMDL	ND	ND	ND
ene	510	ND	BMDL	ND	ND	ND
)anthracene	ND	ND	BMDL	ND	ND	ND
)pyrene	1,100	ND	BMDL	ND	ND	ND
)fluoranthene	2,000	ND	733	ND	ND	ND
hi)perylene	ND	ND	ND	ND	ND	ND
thylhexyl)phthalate	95,100	44,600	12,200	206,000	114,000	ND
enzyl phthalate	1,200	ND	7,520	47,600	5,400	ND
e	ND	ND	BMDL	ND	ND	ND

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TABLE 5 (CONTINUED)
SUMMARY OF AREA A CHEMICAL ANALYSIS RESULTS

Sample #	M1188	M1189	M1198	M1213	M1214	M1215
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	25-Apr	25-Apr	05-May	26-Apr	26-Apr	27-May
Depth	0-18"	0-18"	0-2'			
Composite/Discrete	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	X	X	W
BASE/NEUTRAL EXTRACTABLES, PRIORITY POLLUTANTS CONTINUED						
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND
Diethyl phthalate	ND	ND	ND	19,900	ND	ND
Dimethyl phthalate	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	420	48,000	4,600	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	3,700	ND	ND
Fluoranthene	2,800	ND	BMDL	2,090	1,500	ND
Fluorene	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
Naphthalene	2,000	ND	BMDL	860	4,200	ND
N-Nitrosodiphenylamine	ND	ND	9,210	1,570	ND	ND
Phenanthrene	2,200	ND	BMDL	3,500	3,100	ND
Pyrene	4,100	ND	BMDL	2,130	1,200	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	8.24
Totals	111,010	44,600	24,083	335,350	134,000	10.54
BASE/NEUTRAL/ACID EXTRACTABLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE)						
1H-Indene octahydro 2,2,4,4,7,7-hexamethyl	6,560	ND	ND	ND	ND	ND
1H-Benzo(b) fluorene	ND	ND	ND	ND	ND	ND
1H-Indene,2,3-dihydro	ND	ND	ND	ND	ND	ND
1H-Inden-5-ol,2,3-dihydro	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	ND	ND	ND	ND	ND	ND
1,2,3,4-Tetramethyl benzene	3,410	ND	ND	ND	ND	ND
1,2,3-Trimethyl benzene	ND	ND	ND	ND	ND	ND
1-Methyl anthracene	ND	ND	ND	ND	ND	ND
2,6-Dimethyl nonane	ND	ND	ND	ND	9,080	ND
2-Ethyl hexanoic	ND	ND	ND	4,234	ND	ND
2-Ethyl naphthalene	ND	ND	ND	ND	ND	ND
2-hydroxy benzaldehyde	ND	ND	ND	ND	ND	ND
2-methyl 1,1'-biphenyl	ND	ND	ND	ND	ND	ND
2-Methyl anthracenes	ND	ND	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	ND	ND	ND	ND
2-Methyl phenanthrene	ND	ND	ND	ND	ND	ND
2-methyl phenol	ND	ND	ND	ND	ND	ND
2-Propenoic acid, 2-Methyl, Dodecyl ester	ND	ND	ND	23,834	ND	ND

ATTACHMENT C-27

TABLE 5 (CONTINUED)
SUMMARY OF AREA A CHEMICAL ANALYSIS RESULTS

Sample #	M1188	M1189	M1198	M1213	M1214	M1215
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	25-Apr	25-Apr	05-May	26-Apr	26-Apr	27-May
Depth	0-18"	0-18"	0-2'			
Composite/Discrete	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	X	X	W
BASE/NEUTRAL/ACID EXTRACTIBLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED						
3-Ethyl-2-Methyl heptane	ND	ND	ND	ND	ND	ND
3-Methyl phenanthrene	ND	ND	ND	ND	ND	ND
3-Methyl phenol	ND	ND	ND	ND	ND	ND
4-Methyl phenanthrene	ND	ND	ND	ND	ND	ND
4-Methyl phenols	ND	ND	ND	ND	ND	ND
Alkanes	76,390	ND	2,668	20,114	54,924	ND
Benzenesulfonamide, 4-methyl	ND	ND	ND	ND	ND	ND
Bicyclo(3,2,1)oct-2-ene,3-methyl-4-methylene	ND	ND	ND	ND	ND	ND
Cyclohexane,pentyl	ND	ND	ND	ND	ND	ND
Diethyl benzene	ND	ND	ND	ND	ND	ND
Dimethyl 2-pentenes	ND	2,120	ND	ND	ND	ND
Dimethyl ethyl phenol	ND	ND	ND	ND	ND	ND
Dimethyl heptane	ND	ND	ND	ND	ND	ND
Dimethyl naphthalenes	ND	ND	ND	ND	ND	ND
Dimethyl pentenes	ND	ND	ND	ND	ND	ND
Dimethyl phenanthrenes	ND	ND	ND	ND	ND	ND
Dimethyl phenols	ND	ND	ND	ND	ND	ND
Dimethyl-ethyl benzenes	ND	ND	396	ND	ND	ND
Dimethyl-ethyl phenol	ND	ND	ND	ND	ND	ND
Ethanone, 1-(4-ethyl phenyl)-ethyl	ND	ND	ND	ND	ND	ND
Ethyl benzenes	ND	ND	ND	ND	ND	ND
Ethyl methyl benzene	ND	ND	ND	ND	ND	ND
Ethyl naphthalene	ND	ND	ND	ND	ND	ND
Ethyl phenols	ND	ND	ND	ND	ND	ND
Ethyl- methyl benzenes	ND	ND	ND	ND	ND	ND
Ethyl-1,2,3-trimethyl benzene	ND	ND	ND	ND	ND	ND
Ethyl-1,2,4-trimethyl benzene	8,920	ND	ND	ND	ND	ND
Ethyl-dimethyl benzenes	9,640	ND	ND	ND	ND	ND
Ethyl-methyl benzenes	4,840	ND	1,096	ND	ND	ND
Ethyl-methyl phenols	ND	ND	ND	ND	ND	ND
Ethyl-propyl benzene	ND	ND	ND	ND	ND	ND
Hexadecanoic acid	ND	ND	ND	ND	16,062	ND
Hexanal	ND	ND	ND	ND	11,010	ND
Hydroxy benzaldehyde	ND	ND	ND	4,628	ND	ND
Methoxy benzaldehyde	ND	ND	ND	ND	ND	ND
Methyl benzenes	ND	ND	721	3,939	9,400	ND
Methyl ethyl benzene	ND	ND	ND	ND	ND	ND
Methyl Fluorenes	ND	ND	ND	ND	ND	ND
Methyl naphthalene	ND	ND	387	ND	ND	ND
Methyl phenanthrene	ND	ND	ND	ND	ND	ND
Methyl phenols	ND	ND	ND	ND	ND	ND
Methyl-ethyl benzene	ND	ND	ND	ND	ND	ND

ATTACHMENT C-28

TABLE 5 (CONTINUED)
SUMMARY OF AREA A CHEMICAL ANALYSIS RESULTS

Sample #	M1186	M1189	M1198	M1213	M1214	M1215
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	25-Apr	25-Apr	05-May	26-Apr	26-Apr	27-May
Depth	0-18"	0-18"	0-2'			
Composite/Discrete	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	X	X	W
BASE/NEUTRAL/ACID EXTRACTIBLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED						
Methyl-ethyl phenols	ND	ND	ND	ND	ND	ND
Methyl-methyl ethyl phenols	ND	ND	ND	ND	ND	ND
Methyl-methyl-ethyl benzenes	4,290	ND	627	ND	ND	ND
Methyl-naphthalene	ND	ND	ND	ND	ND	ND
Methyl-propyl benzenes	ND	ND	ND	ND	ND	ND
Naphthalene,decahydro,trans	ND	ND	ND	ND	ND	ND
N-propyl benzamide	ND	ND	ND	8,490	ND	ND
Phosphoric acid, triphenyl ester	ND	ND	ND	ND	ND	ND
Propyl benzenes	ND	ND	ND	ND	ND	ND
Tetrachlorobiphenyls	ND	ND	ND	ND	ND	ND
Tetradecanoic acid	ND	ND	ND	1,229	ND	ND
Tetramethyl benzenes	ND	ND	ND	ND	ND	ND
Tetramethyl butyl phenols	5,090	2,480	335	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Trimethyl benzenes	ND	ND	ND	ND	ND	ND
Trimethyl naphthalenes	4,950	ND	ND	ND	ND	ND
Trimethyl phenols	ND	ND	ND	ND	ND	ND
Xylenes	5,580	ND	386	ND	ND	ND
PCB						
PRIORITY POLLUTANTS						
Aroclor 1242	4,100 J1	ND	ND	ND	ND	ND
Aroclor 1254	15,000 J1	2,200 J1	3,600 J1	ND	ND	ND
Totals	19,100 J1	2,200 J1	3,600 J1	0	0	0
METALS						
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l
PRIORITY POLLUTANTS						
Antimony	13.60	0.90	1.10	3.50	4.10	3.10
Arsenic	46.20	9.20	3.60	5.60	27.00	ND
Beryllium	2.30	0.09	ND	0.48	0.32	ND
Cadmium	11	24	ND	100	16	2.50
Chromium	99	170	ND	210	120	12.00
Copper	550	233	1.10	223	530	7.80
Lead	980	790	330	970	720	ND
Mercury	1.20	2.50	0.44	53	1.00	0.65
Nickel	84	54	ND	69	76	15
Selenium	ND	ND	0.41	ND	ND	ND

J1 = Estimated Concentration. Samples were reextracted past holding time limits as specified in 40CFR Part 136

ATTACHMENT C-29

TABLE 5 (CONTINUED)
SUMMARY OF AREA A CHEMICAL ANALYSIS RESULTS

Sample #	M1188	M1189	M1198	M1213	M1214	M1215
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	25-Apr	25-Apr	05-May	26-Apr	26-Apr	27-May
Depth	0-18"	0-18"	0-2'			
Composite/Discrete	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	X	X	W
METALS, PRIORITY POLLUTANTS CONTINUED						
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
Silver	2.80	2.70	ND	2.90	1.50	2.00
Thallium	0.48	0.76	ND	0.39	0.16	ND
Zinc	2,470	718	2.20	1,340	2,970	71.00
Totals	4,221	2,005	339	2,978	4,466	114
PESTICIDES						
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L
PRIORITY POLLUTANTS						
Beta-BHC	ND	ND	ND	24 J1	ND J1	ND
4,4'-DDE	ND	ND	ND	140 J1	130 J1	ND
4,4'-DDD	ND	ND	ND	ND	160 J1	ND
Endosulfan sulfate	ND	ND	ND	160 J1	34 J1	ND
Endrin aldehyde	ND	ND	ND	65 J1	ND	ND
Totals	0	0	0	389 J1	324 J1	0
PHENOLICS & CYANIDE						
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
Phenolics, Total	1.00	1.40	0.70			0.06
Cyanide, Total	1.40	1.20	1.00			<.025

J1 = Estimated concentration. Samples were reextracted past holding time limits as specified in 40CRF part 136

ATTACHMENT C-30

Sediment

Two buildings within area A were sampled for total priority pollutants plus 40 by taking sediment samples in 5 different locations of each building. The 5 sediment samples were then composited for analyses.

The composite samples from the drum reconditioning building and the boiler rooms (M1213 and M1214) also reflected high heavy metal concentrations that exceeded BISE cleanup levels for Cd, Cr, Cu, Pb, Hg and Zn. These parameters are the same metals found in the two soil samples near the 5,000 gallons settling tank and oil/water trench. Considering the high levels of heavy metals found in the soils it was not surprising to find equally high metal concentrations in the drum reconditioning building. The use of this building made it susceptible to concentration in the floor drain from the effluent produced in chemical cleaning of the drums. But the degree of contamination found in the boiler room was unexpected and indicated flagrant contamination of structures not used in operations that would be the obvious sources of contamination. One possible explanation may be that given the age of the facility (original buildings dating back to 1931 - See Section 2.4 and Figure 2), the use of buildings has changed to its present use from one that may have caused the contamination.

Regardless of sources, the heavy metals contamination is prevalent in both the soils and buildings at levels that exceed cleanup levels and indicates widespread contamination.

Sample M1213, from the floor drain of the Closed Head Reconditioning Building, had excessive concentrations of the same organic constituents found in soil sample M1188: phthalates, alkanes and lesser amounts of PAH's. Total priority pollutant base/neutral organics exceeded 300 mg/kg. The phthalates were much higher in the floor drain sample than in the soil of Area A, with bis (2-ethylhexyl)phthalate exceeding 200 mg/kg.

The presence of pesticides in both buildings is to be noted.

The Boiler Rooms (Sample M1214) had sediment samples taken off of their floors and walls. Though similar in constituency to the floor drain sample concentrations, total priority pollutant base/neutral organics made-up only 134 mg/kg, with phthalates being the primary constituent. Conversely, alkane concentration exceeded 54 mg/kg, as compared to 20 mg/kg for sample M1213. The pesticide concentrations were similar to those found in the floor-drain samples.

See Table 5 and Figure 4 for summary analytical results and location of excessive concentration levels, respectively.

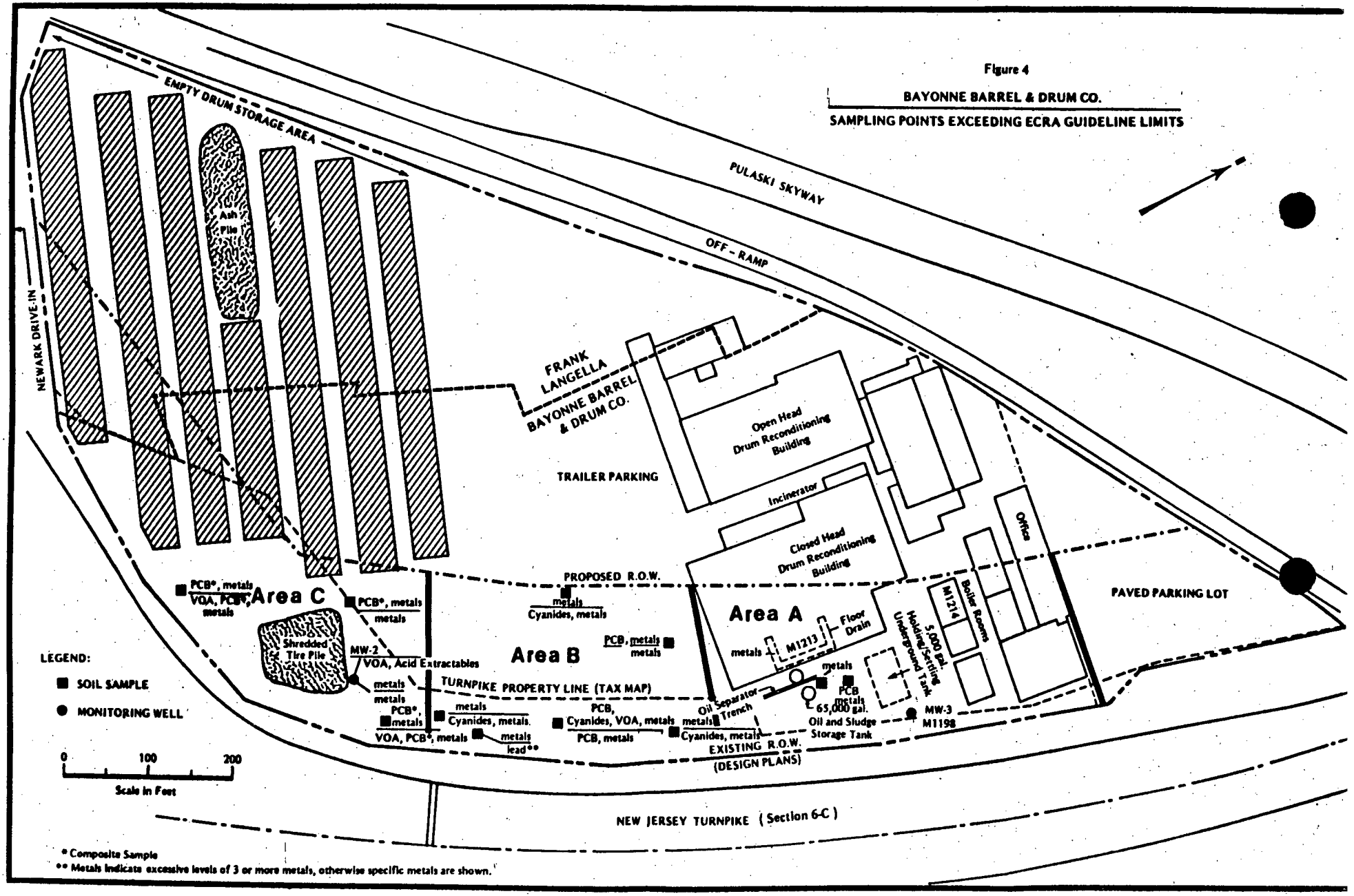
Area B

Soils in Area B had a wide variety of contaminants from heavy metals and all organic groups, some of which exceeded the BISE cleanup levels. Area B covers the largest areal extent of the sampling program and receives runoff from the drum storage area and the tire pile, and overlays the storm sewer system. This makes it susceptible to various sources of contamination.

Figure 4

BAYONNE BARREL & DRUM CO.

SAMPLING POINTS EXCEEDING ECRA GUIDELINE LIMITS



* Composite Sample

** Metals indicate excessive levels of 3 or more metals, otherwise specific metals are shown.

ATTACHMENT C-32

TABLE 6
SUMMARY OF AREA B CHEMICAL ANALYSIS RESULTS

Sample #	M1190	M1191	M1192	M1193	M1196	M1197	M1209	M1242
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Submission	25-Apr	25-Apr	25-Apr	25-Apr	26-Apr	26-Apr	26-Apr	26-Apr
Depth	(-18"	18-36"	(-18"	18-36"	(-18"	18-36"	(-18"	
Composite/Discrete	D	D	D	D	D	D	C	C
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	S
VOLATILE ORGANICS								
PRIORITY POLLUTANTS								
Benzene	22,000	31,100	ND	1.6	BMDL	ND	NA	237
cis-1,3-Dichloropropylene	ND	ND	ND	ND	ND	ND	NA	ND
Ethylbenzene	243,000	408,000	5.83	ND	4.5	33.9	NA	ND
Methylene chloride	48,800 J3	91,600 J3	ND UJ3	ND UJ4	ND UJ5	ND UJ6	NA	25.9
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	NA	ND
Toluene	265,000	321,000	ND	ND	ND	15.4	NA	ND
Totals	578,800	851,700	5.83	1.6	4.5	49.3	NA	222.9
ADDITIONAL PEAKS (SEMI-QUANTITATIVE)								
2-Methyl hexane	ND	ND	ND	ND	ND	ND	ND	ND
2-Pentanone, 4-Methyl	ND	ND	ND	ND	ND	ND	ND	ND
2-Propanones	ND	ND	8	30	6	32	ND	ND
3-methyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
3-Methyl pentane	69,000	ND	ND	ND	ND	ND	ND	ND
4-Ethyl 2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl 2-Pentanones	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND
Alkanes	ND	ND	ND	ND	ND	ND	ND	ND
Alkyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Benzene ethenyl-methyl	ND	ND	ND	ND	ND	47	ND	ND
Benzene, 1,2,3-trimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cycloheptane, methyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexanes, 1,1,3-trimethyl	ND	ND	17	20	ND	ND	ND	ND
Cyclohexane, 1,1-dimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane, 1,3-dimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexanes, 1,3-dimethyl, cis	ND	ND	10	ND	ND	ND	ND	ND
Cyclohexanes, 1,3-dimethyl, trans	ND	ND	9	ND	ND	ND	ND	ND
Cyclohexane, 1,1,3-trimethyl	ND	ND	ND	ND	ND	ND	ND	46
Cyclohexane, 1,2-dimethyl, cis	ND	ND	ND	ND	ND	ND	ND	37
Cyclohexane, 1,2-dimethyl, trans	ND	ND	ND	ND	ND	ND	ND	57
Cyclohexane, 1,3-dimethyl, trans	ND	ND	ND	ND	ND	ND	ND	26
Cyclohexane, 1,4-dimethyl, cis	ND	ND	ND	ND	ND	ND	ND	44
Cyclohexane, 1-ethyl-4-methyl cis	ND	ND	ND	ND	ND	ND	ND	12
Cyclohexane, 1-ethyl-4-methyl trans	ND	ND	ND	ND	ND	ND	ND	46
Cyclohexenone, 3,3,5-trimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclooctane, butyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclopentane, methyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclopentane, 1,3-dimethyl, trans	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl benzenes	ND	ND	ND	ND	ND	ND	ND	ND

J3 = Estimated concentrations due to greater than 25% difference between RF for initial calibration and RF for continuing calibration
ND = Not Detectable
BMDL = Below Minimum Detection Limits
UJ3 = Estimated quantitation limit 16.4ug/kg
UJ4 = Estimated quantitation limit 27.1ug/kg
UJ5 = Estimated quantitation limit 22.9ug/kg
UJ6 = Estimated quantitation limit 17.8ug/kg

ATTACHMENT C-33

TABLE 6 (CONTINUED)
SUMMARY OF AREA B CHEMICAL ANALYSIS RESULTS

Sample #	M1190	M1191	M1192	M1193	M1196	M1197	M1209	M1242
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Submission	25-Apr	25-Apr	25-Apr	25-Apr	28-Apr	28-Apr	28-Apr	28-Apr
Depth	0-18"	18-36"	0-18"	18-36"	0-18"	18-36"	0-18"	
Composite/Discrete	D	D	D	D	D	D	C	C
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	S
VOLATILE ORGANICS ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
dimethyl cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl cyclopentane	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl-3-hexene	ND	ND	ND	ND	ND	ND	ND	ND
Ethane, 1,1'-oxybis	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl-methyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Heptane, methyl	ND	ND	ND	ND	ND	ND	ND	ND
Hydrocarbons	ND	74,000	ND	ND	ND	ND	ND	ND
Methyl cyclohexane	ND	ND	ND	ND	ND	ND	ND	ND
m-Xylenes	1,810,000	3,200,000	ND	ND	ND	ND	ND	ND
o&p-Xylenes	1,310,000	2,280,000	ND	ND	ND	ND	ND	ND
Pentane, 3-methyl	ND	ND	ND	ND	ND	ND	ND	ND
Pentanes, methyl	ND	ND	ND	ND	ND	ND	ND	15
Propyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
ACID EXTRACTABLES								
PRIORITY POLLUTANTS								
2-Chlorophenol	ND	880	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	470	3,700	ND	ND	ND	ND	ND	1780
2,4-Dimethylphenol	2,850	7,410	5,090	ND	ND	ND	890	2470
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	4,130	1,500	800	ND	BMDL	ND	ND	4000
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
Totals	7,450	13,490	5,890	0	0	0	890	8,250
BASE/NEUTRAL EXTRACTABLES								
PRIORITY POLLUTANTS								
Acenaphthene	ND	15,500	ND	ND	ND	180	200	390
Acenaphthylene	ND	3,500	ND	ND	ND	ND	120	ND
Anthracene	4,700	14,600	ND	ND	150	240	230	ND
Benzo(a)anthracene	7,300	22,200	1,900	2,600	380	530	350	1,700
Benzo(a)pyrene	4,600	18,000	2,500	3,100	1,040	680	772	2,500
Benzo(b)fluoranthene	8,450	23,000	3,900	5,700	1,180	730	1,360	4,100
Benzo(ghi)perylene	2,100	4,000	2,600	2,700	1,150	ND	814	ND
bis(2-Ethylhexyl)phthalate	290,000	186,000	7,100	7,500	11,200	2,110	56,800	75,900
Butyl benzyl phthalate	30,100	4,100	ND	ND	1,310	310	1,170	9,030
Chrysene	7,910	24,400	2,200	2,700	690	600	ND	2,100

ATTACHMENT C-34

TABLE 6 (CONTINUED)
SUMMARY OF AREA B CHEMICAL ANALYSIS RESULTS

Sample #	M1190	M1191	M1192	M1193	M1196	M1197	M1209	M1242
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Submission	25-Apr	25-Apr	25-Apr	25-Apr	28-Apr	28-Apr	28-Apr	28-Apr
Depth	0-18"	18-36"	0-18"	18-36"	0-18"	18-36"	0-18"	
Composite/Discrete	D	D	D	D	D	D	C	C
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	S
BASE/NEUTRAL EXTRACTABLES, PRIORITY POLLUTANTS CONTINUED								
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	11,800	ND	ND	ND	ND	ND	ND
Diethyl phthalate	7,550	ND	ND	ND	ND	ND	320	ND
Dimethyl phthalate	ND	ND	ND	ND	330	ND	ND	ND
Di-n-butyl phthalate	83,200	113,000 J	1,100 J	1,200 J	700	150	3,870	13,100
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	1,900	ND	ND
Di-n-octyl phthalate	4,400	ND	ND	ND	310	ND	2,060	5,400
Fluoranthene	14,900	35,900	2,100	3,900	670	1,000	490	2,400
Fluorene	7,400	29,300	ND	ND	80	130	220	1,800
Indeno(1,2,3-c,d)pyrene	1,200	3,500	2,100	2,000	877	ND	560	ND
Isophorone	ND	ND	ND	ND	600	ND	ND	ND
Naphthalene	50,800	191,000	1,200	ND	680	390	5,630	31,000
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	26,200	80,800	ND	1,900	670	1,100	966	4,200
Pyrene	19,200	56,200	2,900	4,000	866	950	590	2,700
1,2,4-Trichlorobenzene	5,600	24,700	ND	ND	ND	ND	350	2,100
Totals	575,610	861,500	29,600	37,300	22,883	10,950	78,872	158,420
BASE/NEUTRAL/ACID EXTRACTIBLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
1H-Indene octahydro 2,2,4,4,7,7-hexamethyl	ND	ND	ND	ND	ND	ND	ND	ND
1H-Benzo(b) fluorene	ND	ND	ND	ND	ND	ND	ND	ND
1H-Indene,2,3-dihydro	ND	ND	ND	ND	ND	ND	ND	ND
1H-Inden-5-ol,2,3-dihydro	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4-Tetramethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trimethyl benzene	49,600	ND	ND	ND	ND	ND	ND	ND
1-Methyl anthracene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethyl nonane	ND	ND	ND	ND	ND	ND	ND	ND
2-Ethyl hexanoic	ND	ND	ND	ND	ND	ND	ND	ND
2-Ethyl naphthalene	ND	ND	ND	ND	ND	ND	ND	26,501
2-hydroxy benzaldehyde	ND	ND	2,650	ND	ND	ND	ND	ND
2-methyl 1,1'-biphenyl	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl anthracenes	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
2-methyl phenol	ND	ND	9,770	ND	ND	ND	ND	ND
2-Propenoic acid, 2-Methyl, Dodecyl ester	ND	ND	ND	ND	ND	ND	ND	ND

J = Estimated concentration. QC Blank contaminated with 126ug/l of di-n-butyl phthalate

ATTACHMENT C-35

TABLE 6 (CONTINUED)
SUMMARY OF AREA B CHEMICAL ANALYSIS RESULTS

Sample #	M1190	M1191	M1192	M1193	M1196	M1197	M1209	M1242
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Submission	25-Apr	25-Apr	25-Apr	25-Apr	26-Apr	26-Apr	26-Apr	26-Apr
Depth	0-18"	18-36"	0-18"	18-36"	0-18"	18-36"	0-18"	
Composite/Discrete	D	D	D	D	D	D	C	C
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	S
BASE/NEUTRAL/ACID EXTRACTIBLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
3-Ethyl-2-Methyl heptane	ND	21,100	ND	ND	ND	ND	ND	ND
3-Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
3-Methyl phenol	ND	ND	ND	ND	ND	ND	ND	8,676
4-Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl phenols	ND	ND	73,500	ND	ND	ND	ND	10,771
Alkanes	196,600	243,500	17,170	ND	ND	2,241	13,350	123,250
Benzenesulfonamide, 4-methyl	ND	ND	ND	ND	378	ND	ND	ND
Bicyclo(3,2,1)oct-2-ene,3-methyl-4-methylene	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,pentyl	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl 2-pentenes	ND	ND	7,250	ND	ND	ND	ND	ND
Dimethyl ethyl phenol	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl heptane	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl naphthalenes	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl pentenes	ND	ND	ND	ND	ND	514	ND	ND
Dimethyl phenanthrenes	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl-ethyl benzenes	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl-ethyl phenol	ND	ND	ND	ND	ND	ND	ND	58,969
Ethanone, 1-(4-ethyl phenyl)-ethyl	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzenes	91,300	67,700	ND	ND	564	ND	ND	53,189
Ethyl methyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl- methyl benzenes	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl-1,2,3-trimethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl-1,2,4-trimethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl-dimethyl benzenes	96,300	ND	ND	ND	773	ND	31,040	114,556
Ethyl-methyl benzenes	388,900	129,900	7,870	ND	404	875	ND	275,877
Ethyl-methyl phenols	ND	ND	ND	ND	ND	ND	ND	0
Ethyl-propyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Hexadecanoic acid	ND	ND	ND	ND	ND	ND	ND	ND
Hexanal	ND	ND	ND	ND	ND	ND	ND	ND
Hydroxy benzaldehyde	ND	ND	ND	ND	ND	ND	ND	ND
Methoxy benzaldehyde	ND	ND	19,600	ND	ND	ND	ND	ND
Methyl benzenes	113,000	47,400	ND	ND	3,227	2,620	ND	63,345
Methyl ethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Fluorenes	ND	ND	ND	ND	ND	ND	ND	ND
Methyl naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
Methyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-ethyl benzene	ND	45,700	ND	ND	ND	ND	ND	ND

ATTACHMENT C-36

TABLE 6 (CONTINUED)
SUMMARY OF AREA I CHEMICAL ANALYSIS RESULTS

Sample #	M1190	M1191	M1192	M1193	M1194	M1195	M1208	M1240
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Submission	25-Apr	25-Apr	25-Apr	25-Apr	25-Apr	25-Apr	25-Apr	25-Apr
Depth	0-18"	18-36"	0-18"	18-36"	0-18"	18-36"	0-18"	
Composite/Discrete	D	D	D	D	D	D	C	C
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	S
BASE/NEUTRAL/ACID EXTRACTABLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
Methyl-ethyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-methyl ethyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-methyl-ethyl benzenes	ND	48,400	ND	3,180	ND	ND	ND	ND
Methyl-naphthalene	ND	26,300	ND	ND	ND	ND	ND	ND
Methyl-propyl benzenes	81,900	26,300	ND	ND	ND	ND	4,925	ND
Naphthalene,decahydro,trans	ND	ND	ND	ND	ND	ND	ND	ND
N-propyl benzamide	ND	ND	ND	ND	ND	ND	ND	ND
Phosphoric acid, triphenyl ester	ND	ND	ND	ND	ND	ND	ND	ND
Propyl benzenes	27,600	17,700	ND	ND	ND	ND	ND	ND
Tetrachlorobiphenyls	ND	ND	ND	ND	ND	ND	ND	ND
Tetradecanoic acid	ND	ND	ND	ND	ND	ND	ND	ND
Tetramethyl benzenes	112,200	ND	ND	ND	1,182	ND	5,942	25,960
Tetramethyl butyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorethene	ND	ND	ND	ND	ND	ND	ND	ND
Trimethyl benzenes	ND	82,100	ND	ND	894	ND	ND	ND
Trimethyl naphthalenes	ND	ND	ND	ND	ND	ND	ND	ND
Trimethyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	475,000	238,700	3,600	ND	1,868	759	ND	232,560
PCB								
PRIORITY POLLUTANTS								
Aroclor 1242	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	87,000 J1	73,000 J1	37,000 J1	1,400 J1	1,800 J1	140 J1	2,800 J1	1,100 J1
Totals	87,000 J1	73,000 J1	37,000 J1	1,400 J1	1,800 J1	140 J1	2,800 J1	1,100 J1
METALS UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PRIORITY POLLUTANTS								
Antimony	12.00	16.00	1.70	3.20	1.00	1.20	6.70	12.00
Arsenic	36.00	73.00	24.00	26.00	5.60	1.50	18.00	62.00
Beryllium	1.20	0.16	0.52	0.59	0.38	0.34	0.25	9.70
Cadmium	63	71	6	10	7.90	0.35	27	29
Chromium	790	590	67	96	130	10.00	305	510
Copper	1,580	870	380	430	340	34	1150	2,050
Lead	8,200	8,520	1,440	ND	1,010	1,060	2,500	5,600
Mercury	9.10	1.90	1.60	1.80	1.90	0.27	1.20	3.60
Nickel	160	110	37	5.40	24.00	6.50	110	218
Selenium	ND	ND	ND	ND	ND	ND	ND	ND

J1 = Estimated Concentration. Samples were reextracted past holding time limits as specified in 40CFR part 136

ATTACHMENT C-37

TABLE 6 (CONTINUED)
SUMMARY OF AREA B CHEMICAL ANALYSIS RESULTS

Sample #	M1190	M1191	M1192	M1193	M1196	M1197	M1209	M1242
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Submission	25-Apr	25-Apr	25-Apr	25-Apr	28-Apr	28-Apr	28-Apr	28-Apr
Depth	0-18"	18-36"	0-18"	18-36"	0-18"	18-36"	0-18"	
Composite/Discrete	D	D	D	D	D	D	C	C
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	S
METALS, PRIORITY POLLUTANTS CONTINUED								
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Silver	2.80	2.70	6.40	4.20	0.69	0.22	6.40	4.40
Thallium	ND	ND	0.14	ND	0.29	0.23	0.43	ND
Zinc	6,120	4,970	1,050	1,400	640	130	2,760	12,200
Totals	16,976	15,227	3,014	1,979	1,962	1,247	6,885	20,699
PESTICIDES								
PRIORITY POLLUTANTS								
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND
Totals	0	0	0	0	0	0	0	0
PHENOLICS & CYANIDE								
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Phenolics, Total	13.00	0.24	0.25	0.13	0.38	0.07	1.90	5.90
Cyanide, Total	16.00	13.00	1.70	2.30	2.20	1.00	0.73	16.00

ATTACHMENT C-38

mples M1190 and M1191 were the only samples in Area B to have excessive vels of contamination from volatile organics (see Table 6 and Figure 4). 190 (0-18") and M1191 (18-36") both exceeded the clean-up levels of mg/kg tal volatile organics (VOA) used by the BISE, with total priority pollu- nt concentrations of 579 mg/kg and 852 mg/kg, respectively. There are so high concentrations of the non-priority pollutant VOA xylene (in all s isomeric forms) in samples M1190 and M1191. It is not surprising that e deeper sample had higher VOA concentrations as samples closer to the rface volatilize more easily. No other samples in Area B had concen- ations of VOAs exceeding 1 mg/kg.

mples M1190 and M1191 are also the only samples in Area B to exceed the eanup level criteria for total cyanides (12 mg/kg) with concentrations of mg/kg and 13 mg/kg, respectively.

ere was no consistency in the results with respect to depth, as some ganic parameters were higher in the 0-18" interval than in the 18-36" terval, while others were higher in the lower depth interval than in the rface interval. For example, in samples M1190 and M1191, most of the iority pollutant base/neutral organic parameters were higher in M1191 an in M1190, while for alkanes (a nonpriority pollutant), xylenes and her non-priority pollutant base/neutrals, the reverse was true. The same true for M1192, M1193 and M1196/M1197 (which is upgradient of the M1190/ 191), but with lower concentrations.

ie alkane concentrations in the borings of samples M1192/M1193 and M1196/ 197 were likewise inconsistent, but to a greater degree. For M1192)-18") the alkane concentration was 17.2 mg/kg while from 18"-36" (M1193) iere was no detectable concentration. The opposite is true for samples 196 and M1197: M1196 had no detectable levels of alkane while M1197 had 2 mg/kg. Samples M1190/M1191, the boring for which is only 75 feet south that for M1196/M1197, had high concentrations in both intervals.

CB's also greatly exceeded cleanup levels of 1-5 mg/kg in samples M1190, 1191 and M1192 with concentrations of 87 mg/kg, 73 mg/kg and 37 mg/kg, espectively. Samples M1190 and M1191 also exceed USEPA trigger levels 50 mg/kg.

eavy metal concentrations that exceeded BISE cleanup levels were detected i all soil samples in Area B. The metals were the same as those found in ea A but with the addition of Arsenic (As), nickel (Ni), and silver (Ag). ie highest levels were found in samples M1190/M1191 with Pb (8,200/8,520 g/kg), Cr (790/590 mg/kg), Cd (63/71 mg/kg), Hg (9.1/1.9 mg/kg), Zn (6,120 ,970 mg/kg), and Cu (1,580/870 mg/kg) well above other discrete soil mples concentrations. Only composite sample M1242 (18-36") had higher evels of Cu and Zn.

ie extensive metal contamination found throughout Area B is most likely om leaching of the ash pile and runoff from the drum storage area. Area is in closer proximity to both these sources than Area A thereby esulting in higher contaminant levels.

ATTACHMENT G-39

TABLE 7
SUMMARY OF AREA C CHEMICAL ANALYSIS RESULTS

Sample #	M1194	M1195	M1203	M1205	M1206	M1207	M1208	M1217
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	26-Apr	26-Apr	06-May	06-May	06-May	26-Apr	26-Apr	27-May
Depth	0-18"	18-36"	3-5'	13-15'	17.5-19	0-18"	18-36"	
Composite/Discrete	D	D	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	W
VOLATILE ORGANICS								
PRIORITY POLLUTANTS								
Benzene	ND	ND	85.3	5.6	ND	4.53	1,100	5.58
cis-1,3-Dichloropropylene	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND UJ7	ND UJ8	333	46	111	19.9 J2	44,300 J3	15.9
Methylene chloride	ND	ND	34	ND	44	46.9	5,280	ND UJ9
Tetrachloroethylene	ND	ND	6.8	ND	ND	ND	ND	ND
Toluene	2.1	ND	318	58	85	25.2	218,000	76.6
Totals	2.1	0	777.1	109.6	240	96.53	268,680	98.08
VOLATILE ORGANICS, ADDITIONAL PEAKS (SEMI-QUANTITATIVE)								
2-Methyl hexane	ND	ND	295	ND	ND	ND	ND	ND
2-Pentanone, 4-Methyl	ND	ND	ND	ND	ND	ND	ND	323
2-Propanones	ND	ND	ND	71	ND	1,050	ND	64
3-methyl benzene	ND	ND	ND	ND	ND	ND	62,000	ND
3-Methyl pentane	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyl 2-Pentanone	ND	ND	572	ND	ND	ND	ND	ND
4-Methyl 2-Pentanones	ND	ND	ND	1,023	240	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND
Alkanes	ND	ND	409	ND	ND	ND	ND	ND
Alkyl benzene	ND	ND	ND	ND	ND	ND	42,000	ND
Benzene ethenyl-methyl	ND	ND	ND	ND	ND	ND	ND	ND
Benzene, 1,2,3-trimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cycloheptane, methyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexanes, 1,1,3-trimethyl	ND	ND	ND	ND	ND	160	ND	ND
Cyclohexane, 1,1-dimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane, 1,3-dimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexanes, 1,3-dimethyl, cis	ND	ND	ND	ND	ND	94	ND	ND
Cyclohexanes, 1,3-dimethyl,trans	ND	ND	ND	ND	ND	53	ND	ND
Cyclohexane,1,1,3-trimethyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,1,2-dimethyl,cis	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,1,2-dimethyl,trans	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,1,3-dimethyl,trans	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,1,4-dimethyl,cis	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,1-ethyl-4-methyl cis	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane,1-ethyl-4-methyl trans	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexanone, 3,3,5-trimethyl	ND	ND	ND	ND	ND	ND	ND	39
Cyclooctane, butyl	ND	ND	ND	ND	ND	ND	ND	ND
Cyclopentane, methyl	ND	ND	ND	ND	ND	994	ND	ND
Cyclopentane,1,3-dimethyl,trans	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl benzenes	ND	ND	ND	ND	ND	847	ND	ND

J2 = Estimated concentration due to %RSD for response factor in initial calibration higher than 30%
J3 = Estimated concentration due to greater than 25% difference between RF for initial calibration and RF for continuing calibration
ND = Not Detectable
BMDL = Below Minimum Detection Limits
UJ7 = Estimated quantitation limit 16.4ug/kg
UJ8 = Estimated quantitation limit 16.9ug/kg
UJ9 = Estimated quantitation limit 11.0ug/l

ATTACHMENT C-40

TABLE 7 (CONTINUED)
SUMMARY OF AREA C CHEMICAL ANALYSIS RESULTS

Sample #	M1194	M1195	M1203	M1205	M1206	M1207	M1208	M1217
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	28-Apr	28-Apr	06-May	06-May	06-May	28-Apr	28-Apr	27-May
Depth	0-18"	18-36"	3-5'	13-15'	17.5-19	0-18"	18-36"	
Composite/Discrete	D	D	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	W
BASE/NEUTRAL/ACID EXTRACTIBLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
3-Ethyl-2-Methyl heptane	ND	ND	ND	ND	ND	ND	ND	ND
3-Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
3-Methyl phenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Alkanes	2,870	ND	53,000	ND	937	ND	2,790	ND
Benzenesulfonamide, 4-methyl	ND	ND	ND	ND	ND	ND	ND	ND
Bicyclo(3,2,1)oct-2-ene,3-methyl-4-methylene	ND	ND	ND	ND	ND	ND	2,870	ND
Cyclohexane,pentyl	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl benzene	ND	ND	ND	ND	ND	ND	2,560	ND
Dimethyl 2-pentenes	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl ethyl phenol	ND	ND	ND	1,400	ND	ND	ND	ND
Dimethyl heptane	1,830	ND	ND	ND	ND	ND	ND	ND
Dimethyl naphthalenes	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl pentenes	ND	165,770	ND	ND	ND	ND	ND	ND
Dimethyl phenanthrenes	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phenols	ND	ND	6,860	1,090	6,019	ND	ND	ND
Dimethyl-ethyl benzenes	ND	ND	29,000	ND	ND	ND	ND	ND
Dimethyl-ethyl phenol	ND	ND	ND	ND	ND	ND	ND	ND
Ethanone, 1-(4-ethyl phenyl)-ethyl	ND	ND	ND	21,210	ND	ND	ND	ND
Ethyl benzenes	ND	ND	ND	ND	ND	270	2,450	ND
Ethyl methyl benzene	ND	ND	ND	ND	ND	ND	16,730	ND
Ethyl naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl phenols	ND	ND	6,890	11,410	ND	ND	ND	ND
Ethyl- methyl benzenes	ND	ND	ND	ND	ND	ND	10,770	ND
Ethyl-1,2,3-trimethyl benzene	ND	ND	ND	ND	ND	ND	1,980	ND
Ethyl-1,2,4-trimethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl-dimethyl benzenes	ND	ND	ND	ND	ND	ND	16,100	ND
Ethyl-methyl benzenes	ND	ND	299,300	ND	3,290	315	ND	ND
Ethyl-methyl phenols	ND	ND	17,880	16,280	4,210	ND	ND	ND
Ethyl-propyl benzene	ND	ND	35,100	ND	ND	ND	ND	ND
Hexadecanoic acid	ND	ND	ND	ND	ND	ND	ND	ND
Hexanal	ND	ND	ND	ND	ND	ND	ND	ND
Hydroxy benzaldehyde	ND	ND	ND	ND	ND	ND	ND	ND
Methoxy benzaldehyde	ND	ND	ND	ND	ND	ND	ND	ND
Methyl benzenes	13,280	11,920	ND	ND	ND	1,585	7,780	ND
Methyl ethyl benzene	ND	ND	ND	ND	ND	ND	1,375	ND
Methyl Fluorenes	ND	ND	ND	ND	ND	ND	ND	ND
Methyl naphthalene	ND	ND	ND	ND	1,190	ND	ND	ND
Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
Methyl phenols	ND	ND	13,100	26,070	9,870	ND	ND	ND
Methyl-ethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND

ATTACHMENT C-43

TABLE 7 (CONTINUED)
SUMMARY OF AREA C CHEMICAL ANALYSIS RESULTS

Sample #	M1194	M1195	M1203	M1205	M1206	M1207	M1208	M1217
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	28-Apr	28-Apr	06-May	06-May	06-May	26-Apr	28-Apr	27-May
Depth	0-18"	18-36"	3-5'	13-15'	17.5-19	0-18"	18-36"	
Composite/Discrete	D	D	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	W
VOLATILE ORGANICS ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
dimethyl cyclohexane	ND	ND	179	ND	ND	ND	ND	ND
Dimethyl cyclopentane	ND	ND	218	ND	ND	ND	ND	ND
Dimethyl-3-hexene	ND	ND	412	ND	ND	ND	ND	ND
Ethane, 1,1'-oxybis	ND	ND	ND	ND	ND	ND	ND	13
Ethyl-methyl benzene	ND	ND	ND	ND	ND	ND	ND	21
Heptane, methyl	ND	ND	ND	ND	ND	115	ND	ND
Hydrocarbons	ND	ND	ND	ND	ND	ND	13,000	ND
Methyl cyclohexane	ND	ND	2,078	ND	ND	ND	ND	ND
m-Xylenes	ND	ND	ND	ND	ND	ND	1,010,000	ND
o&p-Xylenes	ND	ND	ND	ND	ND	ND	769,000	ND
Pentane, 3-methyl	ND	ND	ND	ND	ND	ND	ND	ND
Pentanes, methyl	ND	ND	ND	ND	ND	9,550	ND	ND
Propyl benzene	ND	ND	ND	ND	ND	ND	187,000	ND
Xylenes	ND	ND	7,105	91	1,535	ND	ND	326
ACID EXTRACTABLES								
PRIORITY POLLUTANTS								
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	188,000	79,900	11,500	ND	3,600	860
Pentachlorophenol	ND	ND	ND	ND	ND	ND	1,000	ND
Phenol	ND	ND	27,700	58,900	750	ND	17,600	877
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	650	ND
Totals	0	0	215,700	138,800	12,250	0	22,850	1,737
BASE/NEUTRAL EXTRACTABLES								
PRIORITY POLLUTANTS								
Acenaphthene	ND	ND	BMDL	19,600	ND	ND	ND	9.2
Acenaphthylene	ND	ND	ND	ND	ND	250	ND	ND
Anthracene	ND	ND	BMDL	15,300	310	140	ND	ND
Benzo(a)anthracene	ND	ND	BMDL	16,800	300	500	ND	ND
Benzo(a)pyrene	ND	ND	10,100	11,000	510	994	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	1,200	ND	ND
Benzo(ghi)perylene	ND	ND	BMDL	BMDL	350	895	ND	ND
bis(2-Ethylhexyl)phthalate	4,100	1,700	61,700	ND	1,500	4,620	411,000	ND
Butyl benzyl phthalate	ND	ND	BMDL	ND	ND	110	26,500	ND
Chrysene	ND	ND	BMDL	ND	330	670	ND	ND

ATTACHMENT C-41

TABLE 7 (CONTINUED)
SUMMARY OF AREA C CHEMICAL ANALYSIS RESULTS

Sample #	M1194	M1195	M1203	M1205	M1206	M1207	M1208	M1217
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	28-Apr	28-Apr	06-May	06-May	06-May	28-Apr	28-Apr	27-May
Depth	0-18"	18-36"	3-5'	13-15'	17.5-19	0-18"	18-36"	
Composite/Discrete	D	D	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	W
BASE/NEUTRAL EXTRACTABLES, PRIORITY POLLUTANTS CONTINUED								
Dibenzo(a,h)anthracene	ND	ND	ND	BMDL	ND	140	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	ND	ND	ND	ND	ND	ND	11,500	ND
Dimethyl phthalate	ND	ND	ND	ND	ND	ND	22,000	ND
Di-n-butyl phthalate	ND	ND	11,300	45,300	480	96	87,900	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	15,700	ND
Fluoranthene	ND	ND	12,200	32,000	630	460	3,400	ND
Fluorene	ND	ND	BMDL	19,300	360	ND	2,800	3.15
Indeno(1,2,3-c,d)pyrene	ND	ND	BMDL	BMDL	280	640	ND	ND
Isophorone	ND	ND	ND	ND	ND	260	ND	ND
Naphthalene	ND	ND	44,700	13,700	1,660	240	179,000	16.3
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	18,900	48,400	1,150	430	8,180	4.9
Pyrene	ND	ND	11,700	25,300	530	894	4,700	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	6,200	ND
Totals	4,100	1,700	170,600	246,700	8,390	12,539	778,880	34
BASE/NEUTRAL/ACID EXTRACTABLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE)								
1H-Indene octahydro 2,2,4,4,7,7-hexamethyl	ND	ND	ND	ND	ND	ND	ND	ND
1H-Benzo(b) fluorene	ND	ND	ND	ND	ND	ND	ND	ND
1H-Indene,2,3-dihydro	ND	ND	ND	ND	ND	ND	2,250	ND
1H-Inden-5-ol,2,3-dihydro	ND	ND	19,700	ND	ND	ND	ND	ND
1,1'-Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3,4-Tetramethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trimethyl benzene	ND	ND	ND	ND	ND	ND	ND	ND
1-Methyl anthracene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dimethyl nonane	ND	ND	ND	ND	ND	ND	ND	ND
2-Ethyl hexanoic	ND	ND	ND	ND	ND	ND	ND	ND
2-Ethyl naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-hydroxy benzaldehyde	ND	ND	ND	ND	ND	ND	ND	ND
2-methyl 1,1'-biphenyl	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl anthracenes	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Methyl phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
2-methyl phenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Propenoic acid, 2-Methyl, Dodecyl ester	ND	ND	ND	ND	ND	ND	ND	ND

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TABLE 7 (CONTINUED)
SUMMARY OF AREA C CHEMICAL ANALYSIS RESULTS

Sample #	M1194	M1195	M1203	M1205	M1206	M1207	M1208	M1217
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	mg/l
Date of Submission	28-Apr	28-Apr	06-May	06-May	06-May	28-Apr	28-Apr	27-May
Depth	0-18"	18-36"	3-5'	13-15'	17.5-19	0-18"	18-36"	
Composite/Discrete	D	D	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	W
BASE/NEUTRAL/ACID EXTRACTIBLES, ADDITIONAL PEAKS (SEMI-QUANTITATIVE) CONTINUED								
Methyl-ethyl phenols	ND	ND	2,080	ND	918	ND	ND	ND
Methyl-methyl ethyl phenols	ND	ND	ND	3,920	ND	ND	ND	ND
Methyl-methyl-ethyl benzenes	ND	ND	ND	ND	896	ND	1,750	ND
Methyl-naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-propyl benzenes	ND	ND	ND	ND	ND	ND	4,805	ND
Naphthalene,decahydro,trans	ND	ND	ND	ND	ND	ND	ND	ND
N-propyl benzamide	ND	ND	ND	ND	ND	ND	ND	ND
Phosphoric acid, triphenyl ester	ND	ND	ND	2,890	ND	ND	ND	ND
Propyl benzenes	ND	ND	ND	ND	ND	ND	4,700	ND
Tetrachlorobiphenyls	ND	ND	ND	ND	ND	922	ND	ND
Tetradecanoic acid	ND	ND	ND	ND	ND	ND	ND	ND
Tetramethyl benzenes	ND	ND	57,700	ND	ND	ND	4,350	ND
Tetramethyl butyl phenols	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	1,530	ND	ND	ND	ND	ND	ND
Trimethyl benzenes	ND	ND	ND	ND	ND	491	20,410	ND
Trimethyl naphthalenes	ND	ND	ND	ND	ND	ND	ND	ND
Trimethyl phenols	ND	ND	2,590	2,900	2,490	ND	ND	ND
Xylenes	ND	ND	98,900	9,370	1,050	740	26,000	ND
PCB								
PRIORITY POLLUTANTS								
Aroclor 1242	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	500 J1	79 J1	ND	ND	1,100 J1	5,300 J1	50,000 J1	ND
Totals	500 J1	79 J1	0	0	1,100 J1	5,300 J1	50,000 J1	0
METALS								
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
PRIORITY POLLUTANTS								
Antimony	0.90	0.20	19.00	ND	ND	5.20	6.70	2.60
Arsenic	4.50	3.70	11.00	5.90	1.30	14.00	7.70	2.00
Beryllium	0.16	0.14	ND	ND	ND	0.32	0.49	ND
Cadmium	0.49	ND	0.28	ND	ND	9.90	12	ND
Chromium	19	9.90	3.30	1.10	ND	130	280	2.30
Copper	29	23	4.80	1.60	ND	250	350	6.30
Lead	43	43	2,960	350	90	1,060	1,980	ND
Mercury	0.39	0.10	1.30	1.90	0.05	2.00	1.30	ND
Nickel	7.40	5.20	ND	0.30	ND	35	57	22
Selenium	ND	ND	3.90	0.32	ND	0.60	1.00	ND

J1 = Estimated Concentration. Samples were reextracted past holding time limits as specified in SOW3 para 1.2c

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TABLE 7
SUMMARY OF AREA C CHEMICAL ANALYSIS RESULTS

Sample #	M1194	M1195	M1203	M1205	M1206	M1207	M1208	M1217
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Date of Submission	28-Apr	28-Apr	06-May	06-May	06-May	28-Apr	28-Apr	27-May
Depth	0-18"	18-36"	3-5'	13-15'	17.5-19	0-18"	16-36"	
Composite/Discrete	D	D	D	D	D	C	C	D
Soil (S)/Water (W)/Sediment (X)	S	S	S	S	S	S	S	W
METALS, PRIORITY POLLUTANTS CONTINUED								
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
Silver	0.18	0.11	ND	ND	ND	1.10	0.99	ND
Thallium	0.43	2.30	ND	ND	ND	0.33	0.33	ND
Zinc	67	49	18.00	3.70	ND	705	2,200	69.00
Totals	172	137	2,822	365	91	2,213	4,898	106
PESTICIDES								
PRIORITY POLLUTANTS								
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND
Totals	0	0	0	0	0	0	0	0
PHENOLICS & CYANIDE								
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
Phenolics, Total	0.11	0.12	0.40	1700	0.30	0.62	0.47	16.30
Cyanide, Total	1.80	0.69	0.90	0.50	<.05	2.60	8.80	0.08

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andomness of these results indicates that the current site operations not be the major source of contamination. Previous land-use (see on 2.4) activities may have been caused by subsurface contamination was then covered with fill of questionable cleanliness. This makes it sible to discern target-to-source relationships or to infer that con- ation is defined by the existing boundaries of Bayonne Barrel and Drum.

Area C

oil samples in Area C, as in Areas A and B, had concentrations that d the BISE cleanup criteria for volatile organic, heavy metals and plus high levels of acid extractable organics, phenolics, and a ty of base/neutral organics. See Table 7 and Figure 4 for the results e analyses.

site sample M1208 (18-36") had the highest level of VOAs with a total ntration of 2,351.7 mg/kg, whereas M1207 (0-18") had less than 12 mg/kg. results include the non-priority pollutant VOAs.

hree soil samples from monitoring well #2 (M1203, M1205 and M1206) had total VOAs exceeding the 1 mg/kg cleanup level. The 3-5' sample)3) had 11 mg/kg, while the samples from 13-15' and 17.5-19' had VOA concentrations of only 1-2 mg/kg. All three samples from well #2 had high acid extractable organic concentrations that decreased with . The two main parameters were 2, 4-dimethylphenol and phenol, while phenolics in sample 1205 (13-15') measured at 1,700 mg/kg.

metal concentrations in the first two soil samples from monitoring #2 exceeded BISE cleanup levels for lead and mercury. The lead con- ation was significantly less for the 13 to 15 foot sample (M1205) than he 3 to 5 foot layer (M1203) and both lead and mercury totally absent the 17.5 to 19 foot sample (M1206). The mercury concentrations were significantly different from sample M1203 (1.3 mg/kg) to sample M1205 mg/kg).

composite soil samples (M1207/M1208) had excessive levels of cadmium, nium, copper, mercury, lead and zinc. Lead concentrations ranged from 20 times the cleanup level of 100 mg/kg. In contast to the monitor- well soil samples the composite samples had higher metal concentrations ne lower sample interval (18-36 inches) than for the surface soil le (0-18 inches). Though both composite samples are above the upper- monitoring well soil sample. Since compositing does not allow for ting a specific sample to a contaminant source it can be safely pro- d that like the rest of the site, metal contamination is from leaching ne ash pile and runoff from the drum storage area.

metal contamination does not appear to have migrated below the water e to any great extent but not enough evidence is available to discern a entration decrease with depth relationship. As groundwater on the site

did not possess excessive levels of metals it can be inferred that the metals are tightly bound to the sediment under existing pH and redox (reduction/oxidation) conditions.

Base/neutral organic concentrations were equally as high as elsewhere in the study area, but with some differences. The phthalates especially bis(2-ethyhexyl)phthalate, were greater than 6 mg/kg in sample M1203 (3'-5'), not detectable in sample M1205 (13'-15'), but at 17.5'-19 their concentration rose to 1.5 mg/kg. Also for the composite samples M1207/ M1208, the upper composite (0-18") has a bis(2ethylhexyl) phthalate concentration of 4.6 mg/kg and a lower composite (18-36") concentration of 411 mg/kg.

Discrete samples M1194/M1195 were conspicuously void of high concentrations of contaminants found in the other Area C samples. Except possibly for the base/ neutral organic, methyl benzene, there were no other contaminant levels of concern even heavy metals. Samples M1194/M1195 were obtained farther south than any other discrete samples, and are upgradient from both the ash and tire piles and the runoff from the drum storage area.

PCBs exceeded clean-up levels for both the upper and lower depth intervals of composite samples M1207/M1208, with the lower sample being almost ten times higher in concentration than the upper (50 mg/kg vs. 5.3 mg/kg).

4.2 Groundwater

The water samples collected on May 27, 1986 from monitoring well #2 and 3 were analyzed for Full Priority Pollutants Plus Forty. The BISE cleanup levels for groundwater, as presented in Table 4, are much stricter than for soil. This is because mobility for off-site contamination is much greater for groundwater than for soil, and the pathways for the water's uptake by fauna and flora, is more efficient.

Area A

Monitoring well #3 in Area A does not exceed the cleanup levels for any parameter.

Area B

There was no monitoring well located in Area B.

Area C

The results of monitoring well #2 are in sharp contrast to those of monitoring well #3. MW #2 contained excessive levels of volatile organics, acid extractable organics, and total phenolics. The volatile organic fraction was derived mainly from xylene; 4-methyl, 2-pentanone; and toluene, all of which are solvents in industrial applications and components in the

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refinery of petroleum products. Taking the additional non-priority pollutant peaks into consideration greatly increases the total concentration of volatiles. The total concentration of both priority and nonpriority pollutants was over 98 ug/l, far in excess of the 10 ug/l cleanup level.

The total acid extractable organics concentration was 1,737 ug/l, with 2,4-dimethylphenol and phenol being the only contributors. Again, this far exceeds the cleanup level of 50 ug/l.

Total phenolics which is measured by a different method than for acid extractable phenols, was 16.3 mg/l. The criteria for this compound and most of the heavy metals and pesticides is established by the Bureau of Groundwater Quality Management in N.J.A.C. 7:9-6(c) and are presented in Table 4.

The groundwater quality criteria are applicable to the groundwater of the study area because the total dissolved solids concentration is between 500 mg/l and 10,000 mg/l, which is the main criteria for classifying groundwater. Conductivity measurements listed in Table 3 indicate total dissolved solid concentrations in this range. The Brunswick Shale is the primary aquifer underlying the site and has been subjected to a wide variety of contamination from industrial sources, infiltration of urban runoff, salt-water intrusion and reductions in recharge. Additionally, the Passaic River has also been subjected to upgradient sources of contamination that infiltrates the Brunswick Shale Aquifer and also receives discharge from the aquifer due to tidal affects. This pervasive pollution may result in the BISE deciding not to subject this portion of the aquifer to the cleanup guidelines listed in Table 4. No formal declaration of such an exclusion has been made public at the time of writing.

The results of the groundwater analyses do not exhibit pervasive on-site contamination. Monitoring well #3 is uncontaminated while monitoring well #2 has fairly high concentrations of phenolic compounds and volatile organics. This indicates that the sources of contamination are upgradient of monitoring well #2, (i.e., the old ash pile, drum storage area, tire pile, and other off-site sources) and that groundwater flows generally eastward instead of northeastward. Monitoring wells #2 and #3 had very similar water levels (3.67 and 3.72 feet, respectively), which made it impossible to delineate a hydraulic gradient, especially since the data has not been corrected for tidal influences. A larger number of measurements needs to be made during low and high tides to correct for tidal affects. If measurements indicate the same hydraulic heads (water levels), then it is likely that groundwater passing through monitoring well #2 does not flow near monitoring well #3.

It is also apparent that many of the pollutants in the soils have not mobilized to the groundwater, especially the base/neutral extractable organics, heavy metals and PCB fractions. Volatile organics, being a mobile group of chemicals, are detected in the groundwater but not nearly at the levels found in the soil. The reason for this may be that the more mobile, water soluble constituents have already been flushed out of the soil, as the contamination has been deposited there over many years. The less water soluble substances, such as the base/neutral extractables and PCBs are not

mobile and have partition coefficients that do not permit phase changes from soil to water at any discernable concentration. The immiscible (insoluble in water) chemicals are more tightly bound to the sediment where they accumulate over time at high concentrations. As previously mentioned in Section 4.1 the metals also appear tightly bound to the sediment and not mobilizing into the water column.

The contamination found in the lower soil layers (below the surface) indicates that historical sources are a major contributor, and that the low levels found in the groundwater are not due to the lack of time needed for the above ground sources of contamination (drums, storage tanks, ash pile) to leach to the water table. This does not necessarily reduce the magnitude of existing on-site sources, but it does express the need for a more regional and historical explanation of the contamination.

ATTACHMENT C-49

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: May 16, 1984

SUBJECT: Bayonne Barrel and Drum RCRA Sampling Results (NJD009871401)

FROM: Louis DiGuardia, Geologist 5/16/84
Source Monitoring Section

TO: William K. Sawyer, Attorney
Waste and Toxic Substances Branch

Thru: John Ciancia, Chief
Source Monitoring Section

Richard D. Spear, Chief
Surveillance and Monitoring Branch

On February 17, 1984 a RCRA sampling survey was conducted at Bayonne Barrel and Drum by Joseph Cosentino, Karen Egnot, Steven Hale, Brian Kovak and myself. This survey was conducted at the request of the Waste and Toxic Substances Branch to determine if any actions were taken by Bayonne Barrel and Drum in order to comply with the complaint and compliance order issued May 20, 1982.

The facility located at 150 Raymond Boulevard in Newark, New Jersey was formerly in the business of cleaning and reconditioning dirty and damaged drums. The facility encompasses an area of approximately 20 acres. At the time of the inspection, operations had ceased and the company had filed for bankrupcy.

Drum cleaning operations formerly involved both closed head and open head drums. In closed head cleaning, chains and a caustic solution were used to wash out previous material in the drums. The spent solution drained through an oil-water separator into a 5,000 gallon under ground holding/settling tank and was then pumped into a 60,000 gallon above ground holding/settling tank. The liquid was decanted to the sewer under a permit to the Passaic Valley Sewage Commission. Open head drums were placed on a conveyor belt and moved through an incinerator which burned residue out of the inside. This residue material was collected in two subsurface holding/settling tanks. Approximately 40,000 lbs of incinerator ash and sludge was generated monthly.

Samples were taken from the following areas of concern:

1) Under ground 5,000 gallon holding/settling tank

Sampling #65189 - aqueous sample collected from the tank.
Sampling #65190 - composite soil sample collected from the area around the tank.

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2) Oil/Water Separator

Sample #65188 - aqueous sample collected from oil separator trench.

3) Subsurface tank near incinerator

Sample #65191 - aqueous sample collected from the subsurface tank.
Sample #65192 - composite soil sample near subsurface tank.

4) Incinerator ash waste pile

Sample #65184 - composite sample taken from ash pile
Sample #65185 - " " " " " "
Sample #65186 - " " " " " "
Sample #65187 - composite soil sample taken around ash pile

Sampling equipment and containers were prepared according to EPA standard procedures prior to sampling. A total of nine (9) samples were taken, three (3) aqueous, three (3) soil, and three (3) from the ash pile.

Aqueous samples were analyzed for RCRA characteristics (ignitability and corrosivity) and non-volatile (NVOA) and purgeable (POA) organic priority pollutants. Soil and ash samples were analyzed for the characteristics of EP toxicity (metals, herbicides and pesticides) as defined in RCRA, as well as metal analysis, and priority pollutants (NVOA, POA). All analyses were performed in EPA's Edison, New Jersey laboratory. EPA standard procedures were followed for the collection of samples throughout the survey.

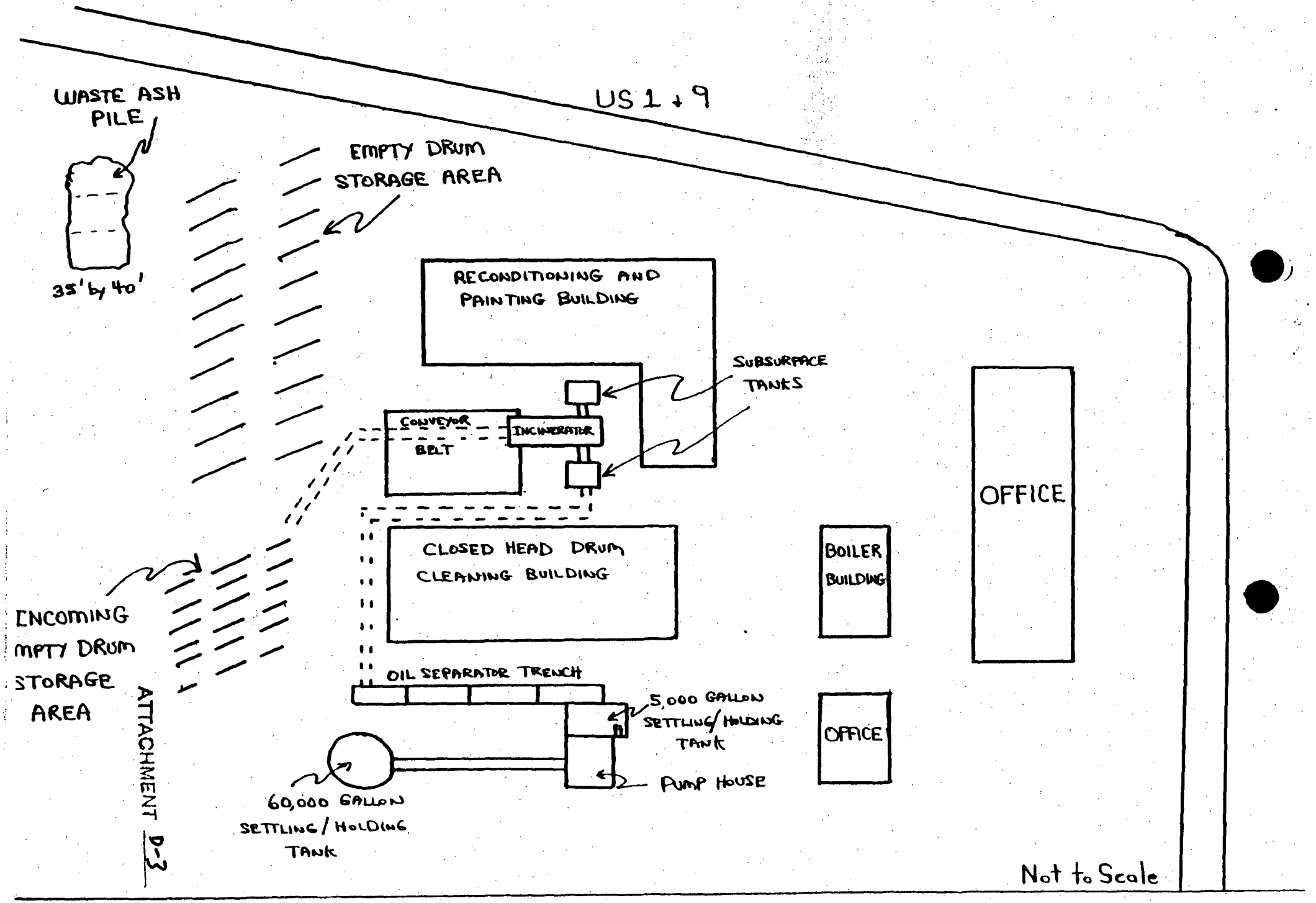
Sample results are given in Tables I thru VI. Results indicate that all samples contained a number of organic compounds. In the incinerator ash waste pile, EP toxicity limits for metals were exceeded for both cadmium and lead. Also, the metals scan showed high levels of heavy metal contamination in all ash and soil samples.

In addition to the above analysis, PCB's in measurable quantities were detected in sample #65187, soil by ash pile.

Attachments:
Figure I - Map of Facilities Grounds
Figure II - Sample Location Map
Tables I-VI - Analytical Results
Appendix I - Photographs
Appendix II - Receipt of Samples

ATTACHMENT D-2

Figure I - Map of Facility Grounds



ATTACHMENT D-3

NEW JERSEY TURNPIKE

Table I

Comparison of Waste Analysis to Characteristics of Corrosivity and Ignitability

Parameter	Maximum Allowable Limit	65188	65189	65191
Ignitability	> 140°F	> 140°F	> 140°F	> 140°F
Corrosivity	> 2.5 S.U.	*	*	6.93 S.U.

S.U. - Standard Units

65188 - Oil Separator
65189 - 5000 Gallon Tank
65191 - Subsurface Tank by Incinerator

* - No Analysis Performed

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Table II

Comparison of Sample Analysis to Characteristic of EP Toxicity

Parameter	Maximum Concentration for EP Toxicity mg/l	65184 mg/l	65185 mg/l	65186 mg/l	65187 mg/l	65191 mg/l	65192 mg/l
Arsenic	5.0	.02K	.02K	.02K	.02K	.02K	.02K
Barium	100.0	4.0	5.3	1.3	1.5	.16	1.7
Cadmium	1.0	.99	1.2	.17	.08	.002K	.04
Chromium	5.0	.02J	.01J	.04	.008K	.02J	.08J
Lead	5.0	7.6	10.0	2.4	.25	.04	.10
Mercury	0.2	.0002K	.0002K	.0002K	.001	.0002K	.0002
Selenium	1.0	.008K	.02J	.008K	.008K	.009J	.008K
Silver	5.0	.002K	.002J	.002K	.002J	.002K	.002K
Endrin	.02	.000008K	.000008K	.000008K	.000008K	.000008k	.00000
Lindane	.4	.00003	.00004	.00023	.00066	.00002	.00000
Methoxychlor	10.0	.00038	.00008K	.00328	.01100	.00054	.0005
2,4,-D	10.0	.0003K	.0003K	.0073	.0080	.0003K	.0003
Silvex	1.0	.00007K	.00007K	.00007K	.00007K	.00007K	.00007
Toxophene	0.5	.00035K	.00035K	.00035K	.00035K	.00035K	.0003

K = Actual valve less than valve given
J = Estimated valve

65184, 65185, 65186 - Ash Pile
65187 - Soil by Ash Pile
65191 - Subsurface Tank Near Incinerator
65192 - Soil by Subburface Tank Near Incinerator

ATTACHMENT D-5

Table III

Results of Metals Analysis on Samples

Parameter	65184 mg/kg	65185 mg/kg	65186 mg/kg	65187 mg/kg	65192 mg/kg
Silver	3K	3J	3K	3K	3K
Arsenic	7.5	6.6	3J	23	7.0
Beryllium	1J	1K	1K	1K	1K
Cadmium	160	120	84	59	13
Chromium	2900	1800	3300	650	1200
Copper	3300	2400	1100	1000	1100
Mercury	12	.5J	21	27	7.4
Lead	21,000	13,000	17,000	4500	2700
Nickel	250	250	79	99	850
Antimony	.8K	.8K	.8K	.8K	.8K
Selenium	.9J	5.1	.8K	4.2	2J
Thallium	.8K	.8K	.8K	.8K	.8K
Zinc	3400	3800	3500	2300	1900

K = Actual valve less than valve given
J = Estimated valve

65184, 65185, 65186 - Ash Pile
65187 - Soil by Ash Pile
65192 - Soil by Subsurface Tank Near Incinerator

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Table IV

Results of Organics Analysis on Samples

Organic Compounds	65188 ug/l	65189 ug/l	65191 ug/l
Fluoranthene		90J	
Isophoronnne	1800J		1300
Nephthalene	1500J	1400	
Bis(2-ethylhexyl) phthalate	13,000	6900	
Butyl benzly phthalate		1100	
Di-n-butyl phthalate	3800J	1800	
Fluorene		70J	
Phenanthrene	2500J	290	
Pyrene		60J	
Phenol			110J
Toluene			4900

J = Estimated valve
K = Actual valve less than valve given

65188 - Oil Separator
65189 - 5,000 Gallon Tank
65191 - Subsurface Tank by Incinerator

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Table Va

Results of Organic Analysis on Samples

Organic Compounds	65184 ug/kg	65185 ug/kg	65186 ug/kg	65187 ug/kg	65190 ug/kg	65192 ug/kg
Acenaphthene			4300J	2500J	1400J	
1,2,4-Trichlorobenzene			8400	1200J		
1,2-Dichlorabenzene		730				
1,4-Dichlorobenzene		240				
1,2-Diphenylhydrazine	3200J		11000	1900J	1500J	2300J
Fluoranthene	2600J	280	15000	12000	12000	3700J
Isophorane	92000	22000	250000	27000		25000
Naphthalene	110000	8300	180000	18000	22000	12000
N-nitrosodiphenyulamine	20000	120	1700J	2000J	4800J	780J
Bis(2-ethylhexyl)phthalatel	800000	11000	1200000	990000	1200000	21000
Butyl benzyl phthalate	370000	2100	1200000	210000	400000	20000
Di-n-butyl phthalate	450000	2100	330000	110000	280000	28000
Di-n-octyl phthalate	5700J	1200	7200	[illegible]J		770J
Diethylphthalate	9700	400				
Dimethylphthalate	24000					
Acenaphthylene	[illegible]J	160		1800J		3100J
Anthracene	[illegible]J	100	8000	[illegible]J		1400J
Fluorene	9400J	57K	7400	3200J	3300J	1600J
Phenanthrene	42000	900	32000	17000	28000	7000
Pyrene	[illegible]J	260	14000	15000	9000	4700J
Phenol	80000	170	46000	5800J		4700J

J = Estimated valve
K = Actual valve less than valve given

ATTACHMENT D-8

Table Vb

Results of Organic Analysis on Samples

Organic Compounds	65184 ug/kg/	65185 ug/kg	65186 ug/kg	65187 ug/kg	65190 ug/kg	6519 ug/k
Benzene	160	130	480		15	
1,2-Dichloroethane	46		88	36		
1,1,1-Trichloroethane	58	380	7000	350	15	
1,1-Dichloroethane	320	67	500	16		
1,1,2-Trichloroethane	1300		5000	660		
Chloroform	47	120	160	23		
1,1-dichloroethylene	68		400	13		
1,2-dichloropropane		18K				
Ethylbenzene	3200	1900	65000	120	580	
Methylene Chloride	10000	4600	8700	1500		
Tetrachloroethylene	1800	1300	2600	460	100	
Toluene	28000	11[illegible]	320000	630	1700	
Trichloroethylene	2200	1300	8100	290	19	
Vinyl Chloride	1600		150			

J = Estimated valve
K = Actual valve less than valve given

65184, 65185, 65186 - Ash pile
65187 - Soil by Ash Pile
65190 - Soil by 1,000 Gallon Tank
65192 - Soil by Subsurface Tank Near Incinerator

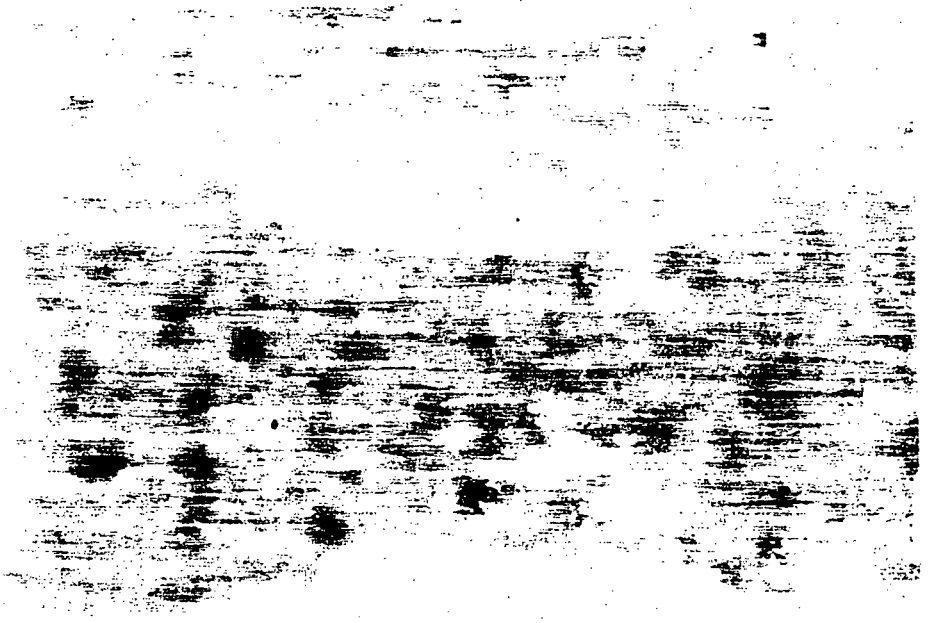
ATTACHMENT D-9

Table VI

Results for PCB Analysis

PCB	65187
Aroclor 1248	67.2 mg/kg
Aroclor 1254	117.5 mg/kg

65187 - Composite soil sample by ash pile



ATTACHMENT D-10

HWMF 07-58

Stablex-Reutter Inc.

The Reutter Building, Ninth and Cooper Streets
Camden, New Jersey 08101
Telephone: 609 - 541-6700 TWX: 7108910547

Bayonne Barrel & Drum

May 25, 1982

NJDEP
Solid Waste Division
32 E. Hanover Street
Trenton, NJ 08625

Attention: Mr. Wayne Howitz, Hazardous Waste Bureau

Reference: Test Report No. SR6737

This report covers the analysis of two (2) sludge samples submitted to Stablex-Reutter, Inc. (S-R) on March 31, 1982. The samples were submitted for the following analysis:

- Organics
  - Polychlorinated Biphenyls
  - Volatile Halogenated Organics
- Inorganics
  - Metals (EP extraction)
  - pH
- Physical
  - Flash Point

This test report is organized in the following manner:

- Sample Preparation
- Analysis
- Analytical Results

I. Sample Preparation

Organic Preparatory Work

A known weight (1.00 grams ± 0.05 grams) of homogenized sample was quantitatively transferred to a centrifuge tube and shaken vigorously with 10 mls of pesticide grade methanol for five minutes. The mixture was allowed to separate, and was centrifuged to facilitate separation of the two phases. An aliquot of the methanol layer was analyzed by Gas Chromatography for volatile halogenated organics, and polychlorinated biphenyls. Any required dilutions were made with pesticide grade methanol.

ATTACHMENT E-1

Inorganic Analysis

The EP extraction procedure was performed in accordance with the following publication:

- Federal Register, May 19, 1980 edition, EPA Extraction Procedure.

The samples were prepared for pH measurement by dispersing 5 grams of sample in 25 ml of deionized water pH was then measured on this aqueous dispersion.

II. Analysis

Following preparation the samples were analyzed in accordance with the following publications.

- Method 601 Federal Register, Vol. 44, No. 233, December 3, 1979. (Columns and GC conditions for volatile halogenated organics).
- EPA-EMSL - The Analysis of Polychlorinated Biphenyls in Transformer Fluids and Waste Oils, June, 1980. (Columns and GC conditions for PCBs).
- EPA - Test Methods for Evaluating Solid Waste - Physical/Chemical Methods - SW846-1980.
- ASTM Method D-93 Standard Method of Test for Flash Point by Pensky-Martens Closed Tester.

Volatile halogenated hydrocarbons and Polychlorinated Biphenyls were analyzed using the Hall Electrolytic Conductivity Detector.

III. Analytical Results

The parameters analyzed and results are delineated in the following tables. The interlaboratory variability of the parameters analyzed in the type of sample matrix submitted has not been established by EPA, and is probably at least ± 20%. S-R is currently evaluating the variability of all tests performed for NJDEP in different types of matrices.

ATTACHMENT E-2

Volatile Halogenated Hydrocarbon Screen

Sample and Designation

Constituent	SR6737-1 TD074 (ash-sludge pile)	SR6737-2 TD075 (leachate runoff)	SR6737-1* TD074	SR6737-2 + Spike: Amount of Spike	SR6737-2 + Spike: % Recovery
Vinyl Chloride	<1	<1	<1	---	---
Methylene Chloride	<1	<1	<1	---	---
Chloroform	<1	<1	<1	370	89
Carbon Tetrachloride	610	<1	430	390	74
Dibromochloromethane	<1	<1	<1	---	---
Bromodichloromethane	<1	<1	<1	480	65
1,1,1 Trichloroethane	2800	<1	2100	350	69
1,1,2 Trichloroethane	<1	<1	<1	---	---
Trichloroethylene	26	<1	27	---	---
Tetrachloroethylene	<1	<1	<1	400	145
1,2 Dichloroethane	<1	<1	<1	310	52
1,1 Dichloroethylene	<1	<1	<1	---	---
1,1 Dichloroethane	<1	<1	<1	---	---
1,2 Dichloropropane	14	<1	22	290	86
2-Chloroethylvinyl Ether	<1	<1	<1	---	---
Bromoform	<1	<1	<1	---	---
1,1,2,2-Tetrachloroethane	<1	<1	<1	---	---
Chlorobenzene	<1	<1	<1	---	---

All results are in micrograms of constituent per gram of sample.
* Duplicate Analysis

ATTACHMENT E-3

Arochlor Screen*

Sample and Designation

Constituent	SR6737-1 TD074	SR6737-2*** TD075	SR6737-2** TD075	SR6737-2 + Spike Amount of Spike	SR6737-2 + Spike % Recovery
Arochlor, Total as Arochlor 1254, ug/gram	<20	<20	<20	280	100

* Polychlorinated Biphenyls under the NJDEP revised protocol of 4/1/82 are limited to Arochlor compounds.

** Duplicate Analysis

*** The later peaks matched perfectly with the Arochlor standard. However, a few of the early peaks were not a perfect match to any Arochlors and under the revised NJDEP Protocol, (as relayed to S-R on 4/1/82) the sample does not contain Arochlors. The chromatograms for this sample are attached for review, and represent alternate column and alternate detector verification.

EPA EP-Extraction

Metal Analysis

Sample and Designation

Constituent	SR6737-1 TD074	SR6737-2 TD075	SR6737-1** TD074	SR6737-1 + Spike* Amount of Spike	SR6737-1 + Spike* % Recovery	EP Toxicity Limit
Arsenic	<0.002	<0.002	<0.002	0.1	100	5.0
Barium	0.36	1.1	0.26	0.2	85	100
Cadmium	0.04	0.18	0.03	0.1	100	1.0
Chromium	<0.05	<0.05	<0.05	0.1	80	5.0
Lead	0.54	2.2	0.55	0.1	100	5.0
Mercury	<0.002	<0.002	<0.002	0.1	70	0.2
Selenium	<0.002	<0.002	<0.002	---	---	1.0
Nickel	<0.05	0.06	<0.05	1.0	104	---
Silver	<0.01	<0.01	<0.01	0.1	90	5.0

The above results are reported im milligrams of constituent per liter of EP extract.

* Spike added to EP extract
** Duplicate analysis

ATTACHMENT E-4

Miscellaneous Analysis

Parameter	Sample and Designation SR6737-1 TD074	SR6737-2 TD075
pH, units	7.80	7.10
Flash Point, °F closed cup	117	>180

If you have any questions concerning the above analysis, please don't hesitate to contact me.

Respectfully submitted,

STABLEX-REUTTER INC.

William J. Ziegler

William J. Ziegler
Laboratory Manager

WJZ/bb
Att: Chain of Custody
Lab notebook record
Chromatograms

ATTACHMENT E-5

Stablex-Reutter Inc.

Ninth and Cooper Streets • P. O. Box 499
Camden, New Jersey 08101
Telephone: (609) 541-6700 TWX: 834477

February 24, 1982

NJDEP
Solid Waste Division
32 Hanover Street
Trenton, NJ 08625

Attention: Mr. Wayne Howitz, Hazardous Waste Bureau

Reference: Test Report No. SR6475

This report covers the analysis of four (4) liquid samples submitted to Stablex-Reutter, Inc. (S-R) on January 29, 1982. The samples were submitted for the following analyses:

- Organics
  - Volatile Aromatic Hydrocarbons
  - Volatile Halogenated Hydrocarbons
  - Oil and Grease
- Inorganics
  - Metals
  - pH
- Physical
  - Flashpoint
  - Reactivity

This test report is organized in the following manner:

- Sample Preparation
- Analysis
- Analytical Results

I. Sample Preparation

Organic Preparatory Work

A known weight (1.00 grams ± 0.05 grams) of homogenized sample is quantitatively transferred to a centrifuge tube and shaken vigorously with 10 ml of pesticide grade methanol for five minutes. The mixture is allowed to separate, and is then centrifuged to facilitate separation of the two phases. An aliquot of the methanol layer is then analyzed by Gas Chromatography for volatile halogenated organics and volatile aromatic compounds. Any required dilutions are done with pesticide grade methanol.

ATTACHMENT E-6

Oil and Grease

The Oil and Grease determination was performed by partition-gravimetric procedures in accordance with the following publication.

- EPA - Test Methods for evaluating Solid Wastes-Physical/Chemical Methods-SW846-1980.

Metals Analysis

The samples were digested for metals analysis by Atomic Absorption in accordance with procedures in the following reference:

- EPA Test Methods for Evaluating Solid Waste - Physical/Chemical Methods-SW846-1980.

A sample size of 1.00 grams was used in the analysis.

II. Analysis

Following preparation, the samples were analyzed as described in the following publications.

- Methods 601, 602 Federal Register, Vol. 44 No. 233, December 3, 1979. (Columns and GC conditions for aromatics and volatile halogenated organics).
- ASTM Method D-56 Standard Method of Test for Flash Point by Tag Closed Tester.
- EPA - Test Methods for Evaluating Solid Waste-Physical/Chemical Methods-SW846-1980. (AAS conditions, Cyanide, Sulfide & pH determinations)
- Federal Register, May 19, 1980 edition, Reactivity Test.

The volatile halogenated organics were analyzed on the Hall Electrolytic Conductivity Detector. The aromatics were analyzed using a Photoionization Detector.

NJDEP
Solid Waste Division
Test Report No. SR6475
February 24, 1982

TD 063 from 5,000 tank
064 from break in line near 5,000 tank
065 from break in line near boiler
066 from discharge to storm sewer

III. Analytical Results

The parameters analyzed and results are delineated in the following tables. the interlaboratory variability of the parameters analyzed in the type of sample matrix submitted has not been established by EPA, and could be as high as ± 20%. S-R is currently evaluating the variability of all tests performed for NJDEP in different types of matrices.

Volatile Aromatic Hydrocarbon Screen

	Sample and Designation				
Constituent	SR6475-1 TD063	SR6475-2 TD064	SR6475-3 TD065	SR6475-4 TD066	SR6475-1 Dup TD063-1 Dup
Benzene	2.7	4.9	3.4	5.7	4.2
Toluene	14	5.7	26	26	18
Xylenes, total	63	<1	93	97	93
Ethylbenzene	18	4.5	26	26	22

All results are in micrograms of constituent per gram of sample. (ppm)

Volatile Halogenated Hydrocarbon Screen

	Sample and Designation				
Constituent	SR6475-1 TD063	SR6475-2 TD064	SR6475-3 TD065	SR6475-4 TD066	SR6475-1 Dup TD063-1 Dup
Vinyl Chloride	<1	<1	<1	<1	<1
Methylene Chloride	10	25	6.5	7.2	12
Chloroform	<1	<1	<1	<1	<1
Carbon Tetrachloride	37	1,200	<1	<1	39
Dibromochloromethane	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1
1,1,1 Trichloroethane	<1	45	4.1	12	<1
1,1,2 Trichloroethane	<1	29	45	55	<1
Trichloroethylene	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1
1,2 Dichloroethane	<1	<1	<1	<1	<1
1,1 Dichloroethylene	<1	<1	<1	<1	<1
1,1 Dichloroethane	<1	<1	<1	<1	<1
1,2 Dichloropropane	<1	5.2	1.3	1.0	<1
2-Chloroethylvinyl Ether	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1

All results are in micrograms of constituent per gram of sample. (ppm)

Dup. - Duplicate analysis

ATTACHMENT E-8

Volatile Organics - Quality Assurance Data

Sample and Designation

SR6475-3 + Spike
TD065 + Spike

Constituent	Amount of Spike, ug/gram	% Recovery
Chloroform	190	73
1,2-Dichloroethane	160	94
1,1,1 trichloroethane	180	150
Carbon Tetrachloride	200	110
1,2 dichloropropane	150	60
benzene	140	127
toluene	150	75

Reactivity

The observations for Reactivity are as follows:

- The samples do not undergo violent changes under normal conditions.
- The samples do not react violently or form a potentially explosive mixture with water.
- The samples do not appear readily capable of detonation or explosive decomposition or reaction at standard temperature or pressure.
- The determination of cyanide and water soluble sulfide follows:

Stablex-Reutter Inc.

NJDEP
Solid Waste Division
Test Report No. SR6475
February 24, 1982

Sample and Designation

Parameter	SR6475-1 TD063	SR6475-2 TD064	SR6475-3 TD065	SR6475-4 TD066
Sulfide, ug/gram	<1	<1	<1	<1
Cyanide, ug/gram	1.4	2.2	1.1	1.7

Miscellaneous Analysis

Sample and Designation

Parameter	SR6475-1 TD063	SR6475-2 TD064	SR6475-3 TD065	SR6475-4 TD066
pH, units	12.00	5.85	11.69	8.58
Flash Point, °F closed cup	>180	>180	>180	>180
Oil & Grease, %	30	30	16	29

ATTACHMENT E-10

Stablex-Reutter Inc.

NJDEP
Solid Waste Division
Test Report No. SR6475
February 24, 1982

Metal Analysis

Sample and Designation

Constituent	SR6475-1 TD063	SR6475-2 TD064	SR6475-3 TD065	SR6475-4 TD066	SR6475-3 Dup TD065 Dup.	SR6475-4 + Spike Amount of Spike	SR6475-4 + Spike % Recovery
Arsenic	<0.1	0.17	<0.1	<0.1	<0.1	0.1	110
Barium	14	7.0	7.0	7.0	7.0	---	---
Cadmium	<0.5	<0.5	<0.5	<0.5	<0.5	---	---
Chromium	4.5	5.5	<2	3.5	<2	0.1	130
Lead	3.0	3.0	<2	<2	<2	0.2	95
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	0.1	70
Selenium	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	85
Silver	1.5	0.5	<0.5	<0.5	<0.5	---	---
Nickel	<2	3.0	5.5	<2	8.0	---	---

The above results are reported in micrograms of constituent per gram of sample.

If you have any questions concerning the above analysis, please don't hesitate to contact me.

Respectfully submitted,

STABLEX-REUTTER, INC.

William J. Ziegler

William J. Ziegler
Laboratory Manager

WJZ/bb

ATTACHMENT E-11

GEOLOGICAL RECLAMATION
OPERATIONS AND WASTE
SYSTEMS, INC. (G.R.O.W.S.)
Division of Waste Resources Corporation

Bordentown and New Ford Mill Road, Falls Township, Post Office Box 180, Morrisville, PA 19067
Phone: (215) 295-0925

LIQUID and/or CHEMICAL WASTE CERTIFICATION
To
Geological Reclamation Operations and Waste Systems, Inc.

THE UNDERSIGNED, hereby certifies, represents and warrants that it is the generator and source of the liquid and/or chemical waste referred to and having the chemical characteristics set forth and described in the Waste Quality Analysis dated 1-27-78 and bearing G.R.O.W.S. ID. No. D-51 a signed copy of which is attached herewith.

It is hereby represented, warranted and agreed by the Undersigned to indemnify and hold "Geological Reclamation Operations and Waste Systems, Inc.", its officers, directors, stockholders, employees and representatives harmless of and from any and all manner of liability, claim, cause of action, damage, expense, penalty or fine which G.R.O.W.S. or any of its officers, directors, stockholders, employees and representatives, or any of them, may at any time hereinafter incur by reason of or arising out of the disposal by or on behalf of the Undersigned of any liquid and/or chemical waste material which shall have chemical characteristics which have any material deviation from those referred to on the Waste Quality Analysis attached hereto.

It is further acknowledged and agreed that should the liquid and/or chemical waste disposed of by or on behalf of the Undersigned contain chemical characteristics which have any material deviation from those disclosed on the Waste Control Analysis that G.R.O.W.S. retains the full right and discretion of rejecting for disposal any further liquid and/or chemical waste generated or produced by the Undersigned.

Company Bayonne Barrel & Drum CO.
(Print or Type)

Telephone No. 201-589-0110

Authorized Agent Andrew Langella
(Print or Type)

Signature and Title _____

Date _____

LCW-03

ATTACHMENT F-1

Applied Geotechnical and Environmental Service Corp.
215 S. Broad St., Suite 902, Phila., Pa. 19107

WASTE QUALITY ANALYSIS

Testing Company ENVIRO/EARTH
R. L. Steiner

Sample Date: 1/-/78
AGES ID: 42876-186

ANALYSES	UNITS	1	2	3
Iron	mg/l	4.11	---	---
COD	"	10,400	---	---
Ammonia Nitrogen	"	53.3	---	---
Oil & Grease	"	265.5	---	---
Zinc	"	9.5	---	---
Copper	"	1.03	---	---
Cadmium	"	.48	---	---
Chromium	"	.53	---	---
Lead	"	3.1	---	---
Mercury	"	3.6	---	---
Phenol	"	11.75	---	---
Cadmium	ppm	---	2.7	---
Lead	"	---	1303	---
Mercury	"	---	82	---
Density	lbs/yd^3	---	---	2360
Moisture Content	%	---	---	30

IDENTIFICATION OF SAMPLES:

AGES 1. Bayonne Drum Co. - Elutriation
2. " " " - Total Concentration
3. " " " - Physical Parameters

Generator: Bayonne Barrel & Drum Co.

Pickup Address: 150 (No.) Raymond Blvd. (Street) Newark ~~Jersey~~ (City) N.J. (State)

Waste Stream ID:

GROWS ID NO: D--51

Reviewed by:

Title:

Was done by B.B. & D initially.

Date: ATTACHMENT F-2

Company:

S & W Waste, Inc.
25 DELMAR ROAD
JERSEY CITY, N. J. 07305
Tel. 344-4004

ANALYSIS

Copper	14.5 ppm
Nickel	.01 ppm
Sulfate	2313 ppm
Chromuim	trace
Iron	trace
Zinc	1.03 ppm
Manganes	trace
Lead	.5 ppm
Cadmuim	no
Aluminum	less than 1 ppm
Arsenic	less than 1 ppm
% moisture	10.3%
% solid's	89.7%

*This analysis was performed by Mr. Anthony Cirello at:

Plater"s Testing Lab.
523 Longwood Ave.
Boundbrook, N.J. 08805
276-8484

ATTACHMENT F-3

TELEPHONE (201) XXX-XXXX

PLATERS TESTING LABORATORY

523 LONGWOOD AVENUE
BOUND BROOK, NEW JERSEY 08805

June 5, 1978

S & W Waste Inc.

25 Delmar Road

Jersey City, N. J. 07302

Attention Mr. Bill Muskatello

Dear Mr. Muskatello

Listed for you below is the analytical data on the sample you supplied for analysis.

copper	0.35 ppm
nickel	2.1 ppm
sulfate	150 ppm
chromium	1.2 ppm
iron	2.5 ppm
zinc	5.8 ppm
manganese	0.46 ppm
lead	9.8 ppm
cadmium	trace
aluminum	60 ppm
arsenic	not detectable
mercury	" "
% moisture	33 %
% solids	67 %

Cordially

ATTACHMENT F-4

ALC/jec

A.L. Cirello

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111

PURETEST SYSTEM OF LABORATORY CONTROL

MATHEW KLEIN, M.S., Director

Telephone
201-373-8007

S&W Waste
Kearny, NJ

sample submitted Nov. 16,1979
Bayonne Barrel #2

% solids	81.34 % wet weight
pH, standard units	6.20

	leachate		solid
	mg/l	mg/kg original weight	mg/kg dry weight
phenol	0.588	4.78	18.9
arsenic	<0.001	<0.01	0.113
cadmium	0.060	0.49	75.33
chromium	<0.014	<0.11	771.1
copper	0.083	0.68	608.6
iron	0.209	1.70	21,970.
mercury	0.0041	0.033	22.93
lead	0.607	4.94	31,205.
nickel	0.095	0.77	72.67
zinc	6.739	54.82	2310.
selenium	<0.004	<0.033	0.080
oil/grease	63.	512.	41.25% dry weight

leached at pH 5.37

ATTACHMENT F-5

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue
Irvington, N.J. 07111

Telephone
201-373-8007

MATHEW KLEIN, M.S., Director

S & W Waste, Inc.
25 Delmar Road
Jersey City, NJ 07305

Submitted: Of Thurs. 2/21/80.

0 Bayonne Barrel industrial waste

	Sludge Analysis mg/kg Dry Weight
Cadmium	54.7
Chromium Total	120.70
Mercury	0.251
Lead	4135.
Zinc	1024.2

Leachate Analysis	Leachate mg/l	Mg Leached/kg Wet Weight
Cadmium	0.13	2.087
Chromium	0.184	2.997
Mercury	0.0062	0.099
Lead	1.16	18.59
Zinc	11.65	186.7

ATTACHMENT F-6 FILE INTO B/B FOLDER

GARDEN STATE LABORATORIES, INC.

Bacteriological and Chemical Testing

399 Stuyvesant Avenue

Irvington, N.J. 07111

PURETEST SYSTEM OF LABORATORY CONTROL

MATHEW KLEIN, M.S., Director

Telephone
201-373-8007

S & W Waste, Inc.
Jersey City

sample submitted 3/20/80
Bayonne Barrel waste
solid resutls in mg/kg dry weight unless noted
leachate results in mg/l unless noted

	solid	leachate
COD	834,000,	2000.
TOC	not applicable	850.
total solids	75.3% wet weight	--
total volatile solids	54.83% dry weight	--
Ammonia-N	360.39	51.4
Cyanide	24.09	0.01
Molybdinum	<1.3	<0.5
Silver	<.33	<0.008

ATTACHMENT F-7

Preliminary Site Investigations: New Jersey Turnpike 1985 - 90 Widening from Passaic River to Milepost 105

Historical Survey of Possible Sources of Contamination within and adjacent to the Proposed Turnpike Right-Of-Way

Submitted to:

New Jersey Turnpike Authority

New Brunswick, New Jersey

Submitted by:

Louis Berger & Associates, Inc.
East Orange, New Jersey

Mark Nardolillo
201-678-1960

December 1986

ATTACHMENT G-1

I. INTRODUCTION

A. Purpose

The purpose of this historical survey is to identify and locate the possible sources of pollution which may have contaminated properties within and adjacent to the proposed Right-of-Way for the New Jersey Turnpike Widening Project. The specific spatial limits of this survey extend from the Passaic River on the north to a point just north of Milepost 105 on the south. Subsequent historical surveys of individual properties outside of this area will be completed in the near future. However these properties, because of their relative separation from one another do not lend themselves to the regional type of evaluation used in this report.

This exercise is historical in nature, in that data from the years 1934 through 1985 were analyzed and presented as indications of historical contamination. Within the context of this study, sources of contamination have been identified via remote sensing techniques (that is, not field-checked) and therefore can be considered qualitative in nature. In addition, since the position of a possible source of contamination is derived from the analysis of aerial photographs, its precise location is limited by the scale distortions inherent in aerial photography.

This work was performed since a particular property cannot be evaluated for contamination based only on factors which exist at the present time. Rather it must be appraised in light of previous activities on the site, since those activities may have had a profound effect on present levels of contamination. This is especially true of the geographic areas within this report which have undergone extensive changes over the last fifty years. The present status of properties of concern has been described previously by Louis Berger and Associates. This report concentrates more on identifying, locating and chronicling the possible origins of contamination.

B. Organization

Section II depicts the methodology used in the analysis of sources of contamination. Section II-A relates the stereoscopic photointerpretation procedure along with the remote sensing characteristics of each possible cause of contamination. Section II-B describes the tabular and graphical forms of data presentation. Section III provides an overall historical summary of land use within and adjacent to the proposed Turnpike widening area.

Section IV describes the possible sources of contamination on each property in detail and is subdivided on a geographic basis into: IV-A. North Map - West Side of Turnpike, IV-B. North Map - East Side of Turnpike, IV-C. South Map - West Side of Turnpike and IV-D. South Map - East Side of Turnpike.

ATTACHMENT G-2

C. Use of the Data

The information in this historical survey has been used to delineate the presence, type, location and duration of possible sources of contamination on the properties involved in the widening of the New Jersey Turnpike from the Passaic River to Milepost 105. With this in mind, the locations of certain subsequent field detection measurements (e.g., Soil Borings and Groundwater Monitoring Wells) have been concentrated in areas where possible sources of contamination are concentrated.

It should be emphasized that because of the nature of data acquisition (remote sensing and literature search), neither the existence nor absence of contamination on a property can be proved conclusively. Confirming evidence must be obtained where possible through subsequent field investigations. In addition, no allegations of legal violations are intended.

ATTACHMENT G-3

II. METHODOLOGY

A. Aerial Photography

Aerial photographs covering the Turnpike area from the Passaic River to Milepost 105 were obtained from various sources for the years 1934, 1940, 1947, 1951, 1959, 1970 and 1985. This frequency of exposure provided sufficient coverage to chronicle the recent industrial and environmental history of the area. The scales of the photographs in this initial phase of investigation ranged from 1"=1000' to 1"=2000'.

Stereoscopic photointerpretation with a mirror stereoscope was done for each set of photographs to delineate cultural and environmental features. The stereoscope enables one to see a "stereo pair" of photographs in three dimensions, thus facilitating identification procedures. Features can be recognized as having positive relief (above ground level), negative relief (below ground level) or zero relief (at ground level). The following are some of the characteristics of the possible sources of contamination identified by stereoscopic photointerpretation in the Turnpike area and in heavily industrialized and urbanized areas in general:

* Industrial Activity - buildings and other industrial structures were identified and exhibited positive relief. Ground outlines of former building sites (zero relief) and excavations (negative relief) were distinguished. Other signs of industrial activity are parking lots, smokestacks, incinerators, site roads, trucks and other vehicles.

* Drum Storage - Drums and barrels were identified based on positive relief, shape and grouping. Ground stains are usually present when drum storage is identified.

* Tank Storage - Usually associated with a larger industrial operation (refinery, utility, chemical company). Positive relief.

* Liquid Storage - Usually associated with a larger industrial operation (refinery, etc.). Much greater potential source of contamination than tank storage. Distinguished by the presence of liquid (flat, usually black), negative relief and by surrounding dikes (positive relief).

* Standing Liquid - Usually associated with industrial or landfill operations, however it is more likely to be an unplanned accumulation. Where it does appear to be planned, it is usually confined to a ditch and a surrounding dike is not usually present. Distinguished by presence of a liquid and negative relief.

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* Lagoon - Characterized by the same features as that for liquid storage, except that the purpose is for liquid disposal or runoff rather than for industrial use.

* Sludge - Usually associated with larger industrial operations. Characterized by lighter color than a liquid, negative relief, presence of surrounding dikes (positive relief).

* Fill - Usually associated with grading operations. Distinguished from undisturbed ground by its lighter color at inception (lack of vegetation) and by having positive relief. Distinguished from landfill operations by its uniformity of color (generally light), smooth texture, flat surface and lack of obvious waste.

* Landfill - Usually a sanitary landfill where municipal solid wastes and construction debris are permanently deposited. Characteristic features are positive relief, variable light and dark coloration, irregular texture, presence of waste piles, road networks, trucks, incinerators, leachate (lighter color) at extremities of landfill. There may also be liquid storage, lagoons and drum storage.

* Waste Disposal - Usually associated with an industrial facility. Recognized by variable light and dark coloration, irregular texture and positive relief. It may be permanent disposal or temporary storage of waste material.

When the identification of possible sources of contamination on the 9" x 9" stereo pairs was completed, each photo was enlarged to a scale of 1"=200' to facilitate positive identification of minute features and to allow the smallest possible margin of error in the digitizing process. The cultural, industrial and environmental features on each enlarged photograph were then digitized with an IBM PC-AT equipped with a CAD software package and the data was stored. This process permitted the readjustment of the scales of the aerial photos and the capability to display the data in a variety of useful formats.

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B. Forms of Data Presentation

A summary of the aerial photographic analysis is presented in Tables 1,2,3 and 4. Tables 1 and 2 contain information derived from the north half of the study area (that is, from the Passaic River on the north to the Central Railroad Line on the south; see Figure 1) and Tables 3 and 4 contain information on the south half of the study area (that is, from the Central Railroad Line on the north to the Oak Island Rail Yards on the south; see Figure 2). The set of maps in the Appendix show the possible sources of contamination for each year analyzed. Each year was assigned a different color and each feature was labelled as to the type of contamination. For an exact location of a potential source of contamination on a property, one may refer to these maps.

Figures 1 and 2 show the Proposed Turnpike Right-of-Way (in black), the Properties within or touched by the Right-of-Way (in black and indexed by numbers 1/10" in height) and the Roads and Railroads (black). The site numbers of the properties on the map correspond to the site numbers in Tables 1,2,3 and 4.

Figures 3 and 4 show the Proposed Right-of-Way (black), the Properties within or touched by the ROW (black), the Roads and Railroads (black) and the maximum areal extent of the present day as well as historic landfills (aqua). Four previously undocumented landfills included in the Proposed Right-of-Way were identified (Landfills *A*,*B*,*C* and *G*) and two previously known landfills in the ROW (Avenue P Landfill{*I*&*J*) and the Delancey Street Landfill{*H*}) were found to be much greater in areal extent than was originally thought. The existence of the undocumented landfills will be confirmed through cross references to geotechnical boring logs and site investigations.

Figures 5 and 6 show the Proposed ROW (black), Properties, Roads and Railroads (black) and the Historic Industrial Facilities (various colors). The facilities are shown by an open polygon and coded by color, that is, the year in which a particular industrial facility was added is referenced to a color in the Explanation. Also the year a particular facility was removed is shown by a cross-hatching in the open polygon with a color corresponding to that year.

Supplemental historical identification of the Industrial Facilities in the study area was made possible through the use of Graphic Map Volumes for Newark by the Sanborn Map Company and is shown in Tables 1,2,3 and 4. Other historical sources are currently being investigated to cross check the industrial facility identification from Sanborn.

III. SUMMARY REPORT OF LAND USE

In 1934, the Turnpike area between the Passaic River and the Oak Island Rail Yards was characterized by heavy industrialization and urbanization. An infrastructure of highways, city streets and railroads was in place. The industrial elements which dominated the landscape of that time were the Public Service Electric and Gas coal burning power plant adjacent to the Passaic River, the Conoco Refinery on Doremus Avenue, Metz Laboratories on Foundry Street, along with numerous small industrial facilities (Hart Dying Company, Capstone Manufacturing Company, Lacquer Specialties, Bayonne Barrel and Drum and the Mertz Rendering Plant). Other indications of an increasingly expansive urbanization are the Sewage Treatment Plant and the already growing landfill activity. Landfills *F* (Milepost 106 Landfill) and *H* (nucleus of Delancey Street Landfill) on Wilson Street and Landfill *A* on Foundry Street were well established at this time.

The Jersey Feed Farms on Foundry Street and the cultivated areas south of Wilson Avenue are remnants of this area's agricultural past that were present in 1934. In addition, two tracts of undeveloped marshland west of Doremus Avenue were also preserved in 1934.

By 1940, the facilities at the Public Service Electric and Gas Plant had expanded and agricultural activities had been drastically curtailed. Also the Landfills *H* (nucleus of Delancey Street Landfill) and *A* (off Foundry Street) expanded dramatically. Other industrial activity declined as several industrial facilities present in 1934 were demolished by 1940.

By 1947, the Landfills *A* and *H* (nucleus of Delancey Street Landfill) had reached their maximum areal extent and Landfills *K* (south of Wilson Avenue), *I&J* (nucleus of the Avenue P Landfill, west of Doremus Avenue) and *F* (nucleus of the Milepost 106 Landfill) were expanding rapidly. Industrial development was fairly stagnant with the exception of expansions of the Lacquer Specialties Plant on Avenue P and Foundry Street and the Beckwith Chandler Plant on Rutherford Street.

Turnpike development was evident by 1951 and the only major changes were a reclamation of parts of Landfills *A* and *H* (nucleus of Delancey Street Landfill) and continued expansion of Landfills *I&J* (nucleus of Avenue P Landfill), *K* and *F* (nucleus of Milepost 106 Landfill).

The Turnpike was in full operation by 1959. A Drive-In Movie had been built atop part of Landfill *A* and Landfills *K*, *I&J* (nucleus of Avenue P Landfill) and *F* (nucleus of Milepost 106 Landfill) showed renewed expansion. Changes in industrial activity consisted of the establishment of auto salvage yards along the Turnpike near Wilson Avenue and the reduction of operations at the Conoco Refinery.

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The Turnpike had been widened by 1970 and the expansion of the auto salvage yards throughout the area was the only notable commercial change. Landfills *I&J* (Avenue P Landfill) were merged and Landfill *F* (Milepost 106 Landfill) and *K* had reached their maximum areal extent.

Changes by 1985 included the closing of the Drive-In Movie and the Conoco Refinery and the expansion of the waste water treatment plant atop former Landfill *K*.

As can be ascertained from the above text, Tables 1-4, Figures 1-6 and the maps in the Appendix, the vast majority of the properties within the Proposed Turnpike Right-of-Way from the Passaic River to Milepost 105 have been exposed to possible sources of contamination at some time from 1934 to 1985 either from activities directly on the properties or immediately adjacent to them. The primary sources of contamination during that period have been from landfill activity and industrial operations.

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IV. PROPERTY REPORTS

The property reports are presented in the following manner. The property or site is indexed by a number. This number is the same as that shown in Tables 1,2,3 and 4. Ownership/Occupant data can therefore be found by referring to those tables. The second item of information for each property identifies the type of possible contamination on a property along with the year or years that it was observed. The third item of information is the similar to the second except that only those possible sources of contamination that are wholly or partially within the proposed Right-of-Way on the property are indicated. Industrial Activity where identified indicates a possible source of contamination except where it is described as (low risk).

A. North Map - West Side of Turnpike

* SITE 11
  Property: Fill-(1947,1985). Waste Disposal-(1970).
  ROW: Fill-(1947,1985), Waste Disposal-(1970).

* SITE 20
  Property: Fill-(1947,1985). Waste Disposal-(1970).
  ROW: Fill-(1947,1985). Waste Disposal-(1970).

* SITES 21-22
  Property: Fill-(1947,1985). Waste Disposal-(1970).
  ROW: Fill-(1947,1985). Waste Disposal-(1970).

* SITE 24
  Property: Waste Disposal-(1940,1951,1970). Fill-(1947,1985). Landfill-(1985).
  ROW: Waste Disposal-(1951,1970). Fill-(1985).

* SITE 25
  Property: Industrial Activity-(1934: Hart Dyeing Company, 1985: Deleet Merchandising Company(low risk)). Waste Disposal-(1940,1951). Fill-(1959). Landfill-(1970,1985).

* SITES 30-33
  Property: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985: Bayonne Barrel & Drum). Drum Storage-(1934,1940,1947,1951,1959,1970,1985). Landfill-(1934,1940,1947). Lagoon-(1947,1951). Fill-(1959). Tank Storage-(1985). Waste Disposal-(1959,1985).
  ROW: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985: Bayonne Barrel & Drum). Drum Storage-(1934,1940,1947,1951,1959,1970,1985). Landfill-(1934,1940,1947). Lagoon-(1947,1951). Fill-(1959). Tank Storage-(1985). Waste Disposal-(1959).

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* SITES 34-35
Property: Industrial Activity-(1934: Jersey Feed Farms). Landfill-(1934,1940,1947). Lagoon-(1951). Waste Disposal-(1985).
ROW: Industrial Activity-(1934: Jersey Feed Farms). Landfill-(1934,1940,1947). Lagoon-(1951). Waste Disposal-(1985).

* SITES 42-44
Property: Industrial Activity-(1934-1950: Capstone Manufacturing Company, Metz Laboratories, 1950-1970: Ohmlac Paint Company, 1950-?: Chemical Industries/Arkansas Chemical). Tank Storage-(1934,1940,1947,1951,1959,1970,1985). Fill-(1940).
ROW: Industrial Activity-(1934-1950: Capstone Manufacturing Company, Metz Laboratories, 1950-1970: Ohmlac Paint Company, 1950-?: Chemical Industries/Arkansas Chemical). Tank Storage-(1934,1940,1947,1951,1959,1970,1985). Fill-(1940).

B. North Map - East Side of Turnpike

* SITE 10
Property: Fill-(1947).
ROW: Fill-(1947).

* SITE 1
Property: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985: PSE&G). Coal Storage-(1934,1940,1947,1951,1959). Tank Storage-(1940,1947,1951,1959,1970,1985). Waste Disposal-(1940,1959). Lagoon-(1947,1951,1959,1970). Fill-(1970).
ROW: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985: PSE&G).

* SITE 49
Property: Industrial Activity-(1934,1940,1947,1951; 1985: B&S Partners/SCA Chem Services{low risk}. Drum Storage-(1940). Landfill-(1947).
ROW: Indutrial Activity-(1934,1940,1947,1951). Landfill-(1947).

* SITE 50
Property: Industrial Activity-(1985: Vineland Construction{low risk}). Landfill-(1934,1940,1947). Waste Disposal-(1970).
ROW: Landfill-(1934,1940,1947). Waste Disposal-(1970).

* SITE 51
Property: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985: Getty Oil). Waste Disposal-(1934,1959,1970). Tank Storage-(1940,1947,1951,1959,1970,1985). Open Storage-(1959). Standing Liquid-(1959). Landfill-(1970).
ROW: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985: Getty Oil). Waste Disposal-(1934). Tank Storage-(1940,1947,1951,1959,1970,1985). Landfill-(1970).

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* SITE 54
Property: Industrial Activity-(1985: Jan Realty Urban Renewal Association/Rollins Truck Leasing(low risk)). Lagoon-(1947,1951,1959). Landfill-(1951,1959,1970). Standing Liquid-(1959).
ROW: Industrial Activity-(1985: Jan Realty Urban Renewal Association/Rollins Truck Leasing(low risk). Lagoon-(1947,1951,1959). Landfill-(1951,1959,1970). Standing Liquid-(1959).

* SITE 55
Property: Industrial Activity-(1934,1940,1947,1951,1959,1970: Pitt-Consol Chemical). Tank Storage-(1934,1940,1947,1951,1959,1970,1985). Waste Disposal-(1934). Liquid Storage-(1934). Lagoon-(1940,1947,1951,1959). Standing Liquid-(1947,1951,1959,1985). Drum Storage-(1947). Fill-(1959).
ROW: Waste Disposal-(1934). Lagoon-(1940,1947,1951,1959). Standing Liquid-(1959).

* SITE 56
Property: Industrial Activity-(1959,1970,1985: Jumon Realty Company/Friedman's Express(low risk)). Landfill-(1940,1947).
ROW: Landfill-(1940,1947).

* SITE 57
Property: Industrial Activity-(1934-1950: Lacquer Specialties; 1950-1985?: Chemical Solvents & Lacquer Specialties/Ashland Oil & Refining). Tank Storage-(1934,1940,1947,1951,1959,1970,1985).
ROW: Industrial Activity-(1934-1950: Lacquer Specialties; 1950-1985?: Chemical Solvents & Lacquer Specialties/Ashland Oil & Refining).

C. South Map - West Side of Turnpike

* SITE 89
Property: Industrial Activity-(1959,1970,1985: Junkyard). Landfill-(1934,1940,1947,1951,1959,1970). Waste Disposal-(1934). Fill-(1951). Liquid Storage-(1985).
ROW: Waste Disposal-(1934). Landfill-(1951,1959,1970). Fill-(1951).

* SITE 90
Property: Industrial Activity-(1934-1950: Rockwell Machinist; 1951,1959,1970,1985: Junkyard). Waste Disposal-(1947,1985). Open Storage-(1959,1985). Drum Storage-(1985).
ROW: Industrial Activity-(1934-1950: Rockwell Machinist; 1951,1959,1970,1985: Junkyard). Waste Disposal-(1947,1985). Open Storage-(1959,1985). Drum Storage-(1985).

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* SITE 94
Property: Industrial Activity-(1947; 1951,1959,1970,1985: M&M Transport Motor Freight/Courtesy Container Service(low risk)). Drum Storage-(1947).
ROW: Industrial Activity-(1947; 1951,1959,1970,1985: M&M Transport Motor Freight/Courtesy Container Service(low risk)). Drum Storage-(1947).

* SITE 95
Property: Industrial Activity-(1959,1970,1985: Roy Stone Transfer Corp./Junkyard). Landfill-(1934,1940,1947,1951,1959). Standing Liquid-(1951).
ROW: Industrial Activity-(1959,1970,1985: Roy Stone Transfer Corp./Junkyard). Landfill-(1934,1940,1947,1951,1959). Standing Liquid-(1951).

* SITE 96
Property: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959). Waste Disposal-(1970).
ROW: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

* SITE 97
Property: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).
ROW: Industrial Activity-(1970,1985: Imperial Urban Renewal/Ironbound Transport Park/Junkyard). Landfill-(1934,1940,1947,1951,1959).

* SITE 103
Property: Landfill-(1940,1947,1951,1959,1970,1985).
ROW: Landfill-(1940,1947,1951,1959,1970,1985).

D. South Map - East Side of Turnpike

* SITE 72
Property: Waste Disposal-(1970,1985).

* SITES 73 & 77
Property: Industrial Activity-(1934: Mertz Rendering Plant; 1940,1947,1951,1959,1970; 1985: Pfister Chemical/Alliance Color & Chemical). Lagoon-(1951,1970). Landfill-(1959). Tank Storage-(1985). Drum Storage-(1985).
ROW: Industrial Activity-(1934: Mertz Rendering Plant; 1940,1947,1951,1959). Lagoon-(1951,1970). Landfill-(1959).

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* SITES 78-79
Property: Industrial Activity-(1934,1940,1947,1951,1959,1970,1985). Landfill-(1934,1940,1947,1951,1959,1970,1985). Sludge-(1940). Lagoon-(1947,1970).
ROW: Landfill-(1940,1947,1951,1959,1970,1985). Lagoon-(1947,1970).

* SITE 80
Property: Industrial Activity-(1934,1940; 1970: Junkyards; 1985: White Rose Meats{low risk}). Waste Disposal-(1934,1947,1951). Landfill-(1959,1970). Lagoon-(1985).
ROW: Industrial Activity-(1970: Junkyards). Waste Disposal-(1947,1951). Landfill-(1959,1970). Lagoon-(1985).

* SITE 81
Property: Landfill-(1959,1970). Waste Disposal-(1970). Tank Storage-(1985).
ROW: Landfill-(1959,1970). Waste Disposal-(1970). Tank Storage-(1985).

* SITES 82 & 83-85
Property: Industrial Activity-(1934,1940,1947,1951; 1970,1985: Junkyards). Waste Disposal-(1940,1947,1951,1970,1985). Landfill-(1947,1959,1970). Drum Storage-(1947). Open Storage-(1947). Fill-(1947).
ROW: Industrial Activity-(1934,1940,1947,1951; 1970,1985: Junkyards). Waste Disposal-(1940,1947,1951,1970,1985). Landfill-(1947,1959,1970). Drum Storage-(1947). Fill-(1947).

* SITE 86
Property: Industrial Activity-(1934,1940,1947,1951,1959; 1970,1985: Junkyards). Open Storage-(1959).
ROW: Industrial Activity-(1934,1940,1947,1951,1959; 1970,1985: Junkyards). Open Storage-(1959).

* SITE 113
Property: Industrial Activity-(1959,1970: Junkyards; 1985).
ROW: Industrial Activity-(1959,1970: Junkyards; 1985).

* SITE 112
Property: Industrial Activity-(1959:Junkyards; 1985: Jet Urban Renewal Corp./Circle Air Freight {low risk}).
ROW: Industrial Activity-(1959:Junkyards; 1985: Jet Urban Renewal Corp./Circle Air Freight {low risk}).

* SITES 111 & 109
Property: Industrial Activity-(1934-1950: Beckwith Chandler Paints; 1950-?: Devoe & Reynolds; 1951,1959,1970; 1985: ADCO Chemical). Tank Storage-(1959,1985). Waste Disposal-(1985).

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* SITE 104
Property: Industrial Activity-(1959,1970,1985: Monoplast Chemical Company).
ROW: Industrial Activity-(1959,1970,1985: Monoplast Chemical Company).

* SITE 105
Property: Landfill-(1970,1985). Drum Storage-(1985).
ROW: Landfill-(1985).

* SITE 106
Property: Landfill-(1934,1940,1947,1970,1985).
ROW: Landfill-(1934,1940,1947).

* SITE 107
Property: Landfill-(1947).
ROW: Landfill-(1947).

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TABLE 1

HISTORICAL SURVEY - POSSIBLE SOURCES OF CONTAMINATION (NORTH MAP/WESTSIDE OF TURNPIKE)

Site #	Present Owner/Occupant	1934	1940	1947	1951	1959	1970	1985	Previous Owner/Occupant
11	Newark Housing Authority	-	-	FL	-	-	WD	FL	
20	Conrail	-	-	FL	-	-	WD	FL	
21-22	Conrail	-	-	FL	-	-	WD	FL	
24	City of Newark	-	WD	FL	WD	-	WD	LF,FL	
5&26	Conrail	-	-	-	-	-	-	-	
6	PSE&G	-	-	-	-	-	-	-	
7	Dept. of Higher Education	-	-	-	-	-	-	-	
25	Deleet Merchandising Corp.	IA	WD	-	WD	FL	LF	LF,IA	Hart Dyeing Co. 1934-40
30-33	Bayonne Barrel & Drum Frank Langella	IA,DR,LF	IA,DR,LF	IA,DR,LG LF	IA,DR,LG	IA,DR,FL WD	IA,DR	TS,IA,DR,WD	
34-35	Edle Realty	LF,IA	LF	LF	LG	-	-	WD	Jersey Feed Farms (pig-pens) 1934-40/Drive-In 1959
42-44	41-Foundry St. Corp./ Sun Chemical 42-City of Newark/Ark. Chem 43-Ashland Oil 44-Ashland Oil	IA,TS	IA,FL,TS	IA,TS	IA,TS	IA,TS	IA,TS	IA,TS	Capstone Mfg. Co. (oil, Grease,Soaps) 1934-50 Ohmlac Paint & Ref. Co. 1950-70 Metz Laboratories (Mfg. Drugs) 1934-50 Chem Industries/Arkansas Chem. 1950-

LEGEND

C - Coal Storage
DR - Drum Storage
FL - Fill
IA - Industrial Activity
LF - Landfill
LG - Lagoon
LS - Liquid Storage
OS - Open Storage
SD - Sludge
SL - Standing Liquid
TS - Tank Storage
WD - Waste Disposal

to Bayonne Street

ATTACHMENT G-15

TABLE 2

HISTORICAL SURVEY - POSSIBLE SOURCES OF CONTAMINATION (NORTH MAP/EASTSIDE OF TURNPIKE)

Site #	Present Owner/Occupant	1934	1940	1947	1951	1959	1970	1985	Previous Owner/Occupant
9	NJ Turnpike Authority	-	-	-	-	-	-	-	
10	NJ Turnpike Authority	-	-	FL	-	-	-	-	
8	Conrail	-	-	-	-	-	-	-	
1	PSE&G	IA,C	IA,TS,WD, C	IA,TS,LG, C	IA,TS,LG, C	IA,TS,LG, C,WD	IA,TS,LG FL	IA,TS	
3	PSE&G	-	-	-	-	-	-	-	
49	B&S Partners/SCA Chem SVCES (Trailer Parts)	IA	IA,DR	IA,LF	IA	-	-	IA	
50	Vineland Construction	LF	LF	LF	-	-	WD	IA	
51	Power Test Realty/Getty	IA,WD	IA,TS	IA,TS	IA,TS	IA,TS,WD, OS,SL	IA,TS,LF WD	IA,TS	Getty Oil
54	Jan Realty Urban Renewal Assn/Rollins Truck Leas.	-	-	LG	LF,LG	LF,SL,LG	LF	IA	
55	Pitt-Consol Chemical	IA,TS,WD LS	IA,TS,LG	IA,TS, LG,SL,DR	IA,TS, LG,SL	IA,TS,LG SL,FL	IA,TS,	SL,TS	
56	Jumon Realty Co./ Friedman's Express	-	LF	LF	-	IA	IA	IA	
57	Ashland Oil & Refining	IA,TS	IA,TS	IA,TS	IA,TS	IA,TS	IA,TS	IA,TS	Lacquer Specialties (Lacquer Mfg. 1934-50) Chemical Solvents & Lacquer Spec. 1950

LEGEND

C - Coal Storage
DR - Drum Storage
FL - Fill
IA - Industrial Activity
LF - Landfill
LG - Lagoon
LS - Liquid Storage
SD - Sludge
OS - Open Storage
SL - Standing Liquid
TS - Tank Storage
WD - Waste Disposal

ATTACHMENT G-16

TABLE 3

HISTORICAL SURVEY - POSSIBLE SOURCES OF CONTAMINATION (SOUTH MAP/WESTSIDE OF TURNPIKE)

Site #	Present Owner/Occupant	1934	1940	1947	1951	1959	1970	1985	Previous Owner/Occupant
87	Conrail	-	-	-	-	-	-	-	
88	Conrail	-	-	-	-	-	-	-	
89	Newark Housing Authority	LF,WD	LF	LF	LF,FL	IA,LF	IA,LF	IA,LS	
90	Newark Housing Authority/ Junkyard	IA	IA	IA,WD	IA	IA,OS	IA	IA,OR,OS,WD	W.S. Rockwell (Machinist) 1934-50
94	Courtesy Container Service	-	-	IA,OR	IA	IA	IA	IA	M&M Transport(Motor Freight) 1951
95	Roy Stone Transfer Corp.	LF	LF	LF	LF,SL	LF,IA	IA	IA	Junkyard
96	Imperial Urban Renewal Assn/IronBound Transport Park	LF	LF	LF	LF	LF	IA,WD	IA	
97	Imperial Urban Renewal Assn/IronBound Transport Park	LF	LF	LF	LF	LF	IA	IA	
103	Newark Housing Authority	-	LF	LF	LF	LF	LF	LF	

LEGEND

C - Coal Storage
DR - Drum Storage
FL - Fill.
IA - Industrial Activity
LF - Landfill
LG - Lagoon
LS - Liquid Storage
SD - Sludge
OS - Open Storage
SL - Standing Liquid
TS - Tank Storage
WD - Waste Disposal

ATTACHMENT 6-17

TABLE 4

HISTORICAL SURVEY - POSSIBLE SOURCES OF CONTAMINATION (SOUTH MAP/EASTSIDE OF TURNPIKE)

Site #	Present Owner/Occupant	1934	1940	1947	1951	1959	1970	1985	Previous Owner/Occupant
72	Conrail	-	-	-	-	-	WD	WD	
73 77	Pfister Chemical/Alliance Alliance Color & Chemical	IA	IA	IA	IA,LG	IA,LF	IA,LG	IA,TS,DR	Mertz Rendering Plant 1934
78-79	Newark Housing Authority	IA,LF	IA,LF,SD	IA,LF,LG	IA,LF	IA,LF	IA,LF,LG	IA,LF	
80	Newark Economic Development White Rose Meats	IA,WD	IA	WD	WD	LF	IA,LF	IA,LG	
81	Synfax Urban Renewal Corp.	-	-	-	-	LF	LF,WD	TS	
82	Newark Housing Author./ Junkyard	IA	IA,WD	IA,LF,DR, OS,FL,WD	IA,WD	LF	IA,WD,LF	IA,WD	
83-85	Federal Storage Warehouse/ Junkyards								
86	Stephanie Kiena/Diner	IA	IA	IA	IA	IA,OS	IA	IA	Junkyards
113	Passaic Valley Sewerage Comm.	-	-	-	-	IA	IA	IA	
112	Jet Urban Renewal Corp./ Circle Air Freight	-	-	-	-	IA	-	IA	
111 109	Ridge Equities/ADCO Chem. " " "	IA	IA	IA	IA	IA,TS	IA	IA,TS,WD	Beckwith Chandler (Mfg. Paints) 1934-50 Devoe & Reynolds 1950-
104	Newark Housing Authority/ Monoplast Chemical Corp.	-	-	-	-	IA	IA	IA	
105	Passaic Valley Sewerage Comm.	-	-	-	-	-	LF	LF,DR	
106	City of Newark	LF	LF	LF	-	-	LF	LF	
107	Passaic Valley Sewerage Comm.	-	-	LF	-	-	-	-	

LEGEND

C - Coal Storage
DR - Drum Storage
FL - Fill
IA - Industrial Activity
LF - Landfill
LG - Lagnon
LS - Liquid Storage
OS - Open Storage
SD - Sludge
SL - Standing Liquid
TS - Tank Storage
WD - Waste Disposal

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EXPLANATION

DR	Drum Storage	SD	Sludge
FL	Fill	SL	Standing Liquid
LF	Landfill	TS	Tank Storage
LG	Lagoon	WD	Waste Disposal
LS	Liquid Storage	WP	Waste Pile
OS	Open Storage		

1934 INFORMATION
1940 INFORMATION
1947 INFORMATION
1951 INFORMATION
1959 INFORMATION
1970 INFORMATION
1985 INFORMATION

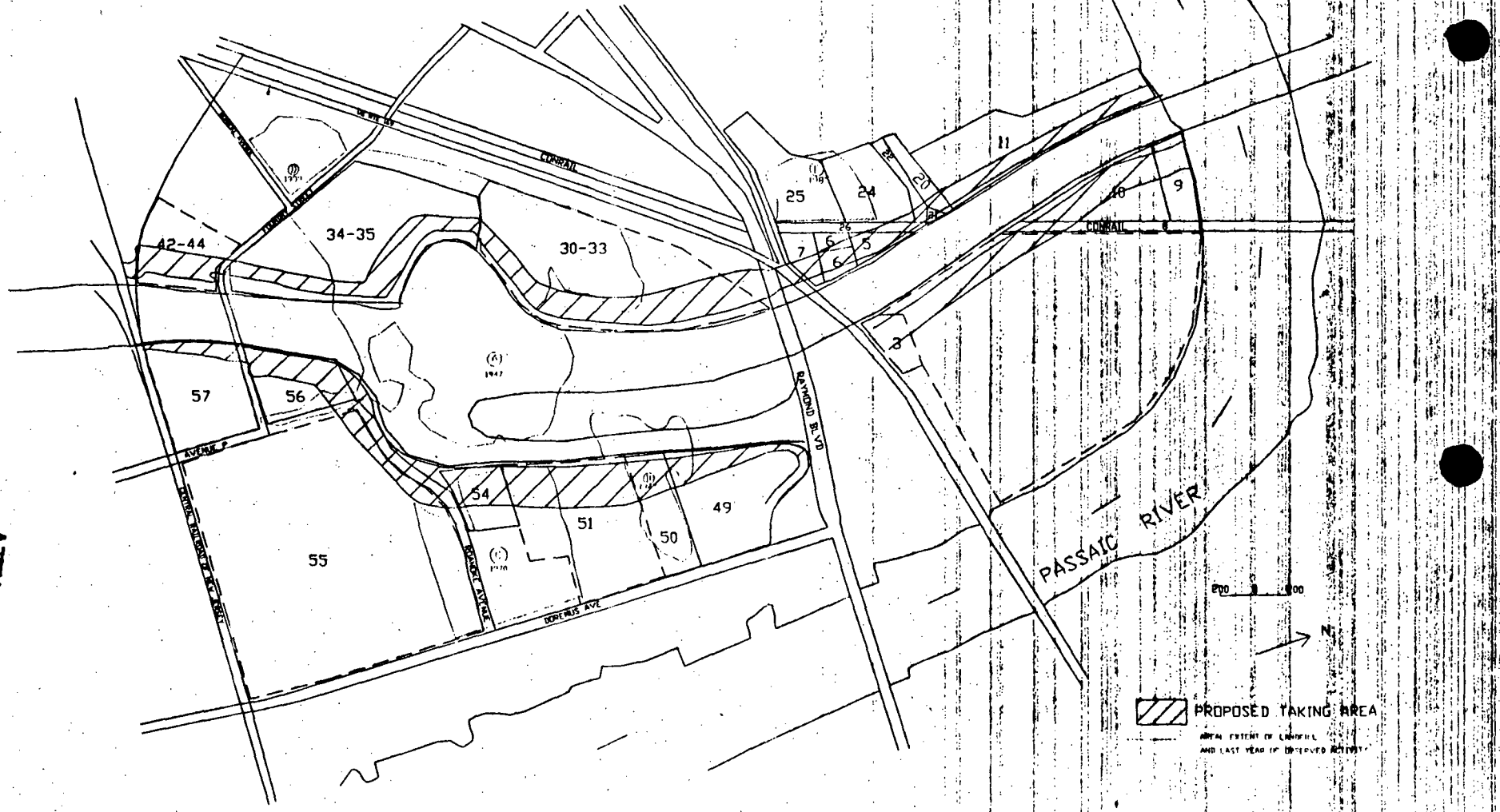
Proposed Turnpike ROW

Demolished Buildings

ATTACHMENT 6-19

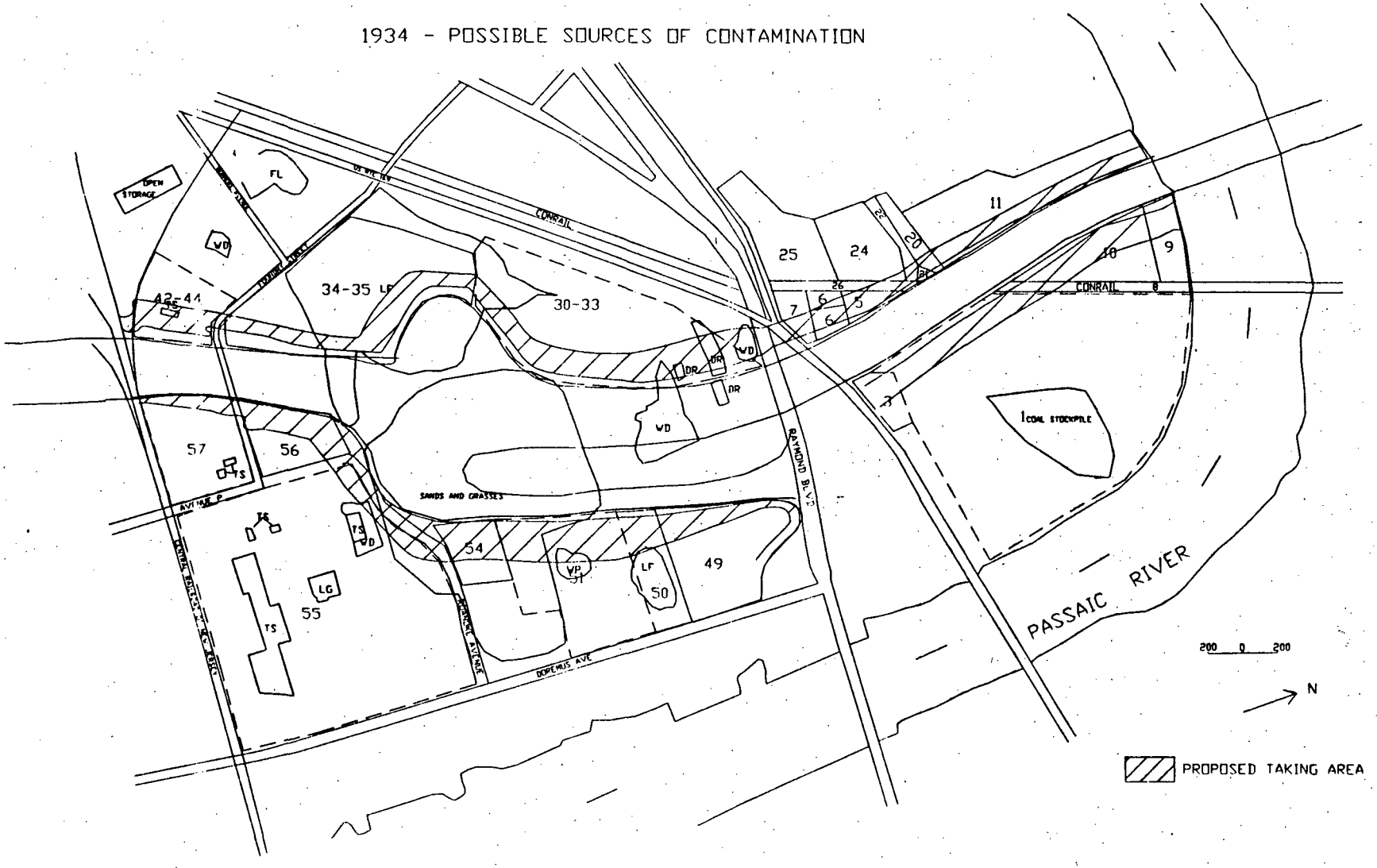
FIGURE 3

North Map showing Ponds, Proposed Turnpike ROW, Properties and Historic Landfills



ATTACHMENT 6-20

1934 - POSSIBLE SOURCES OF CONTAMINATION



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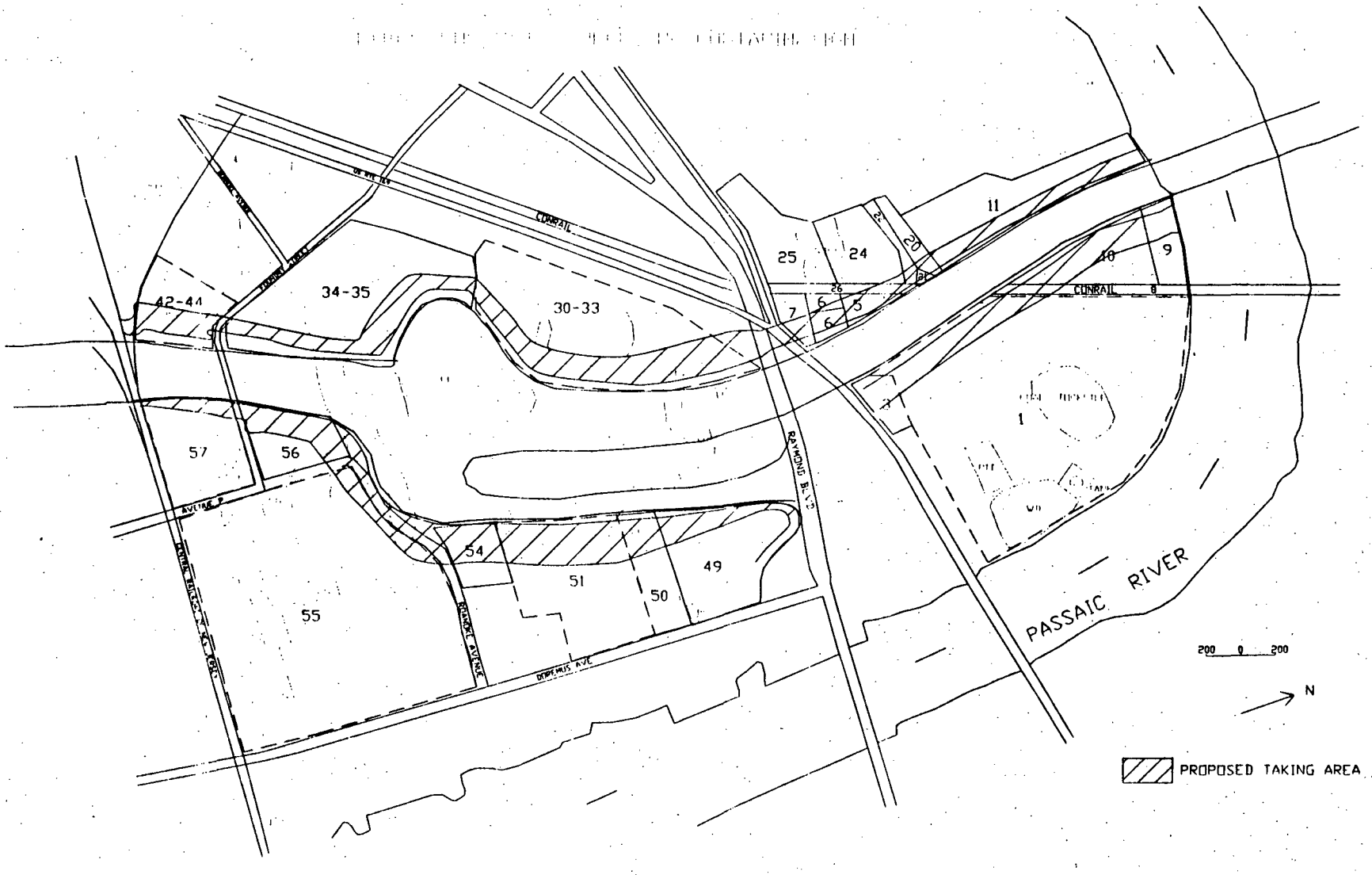
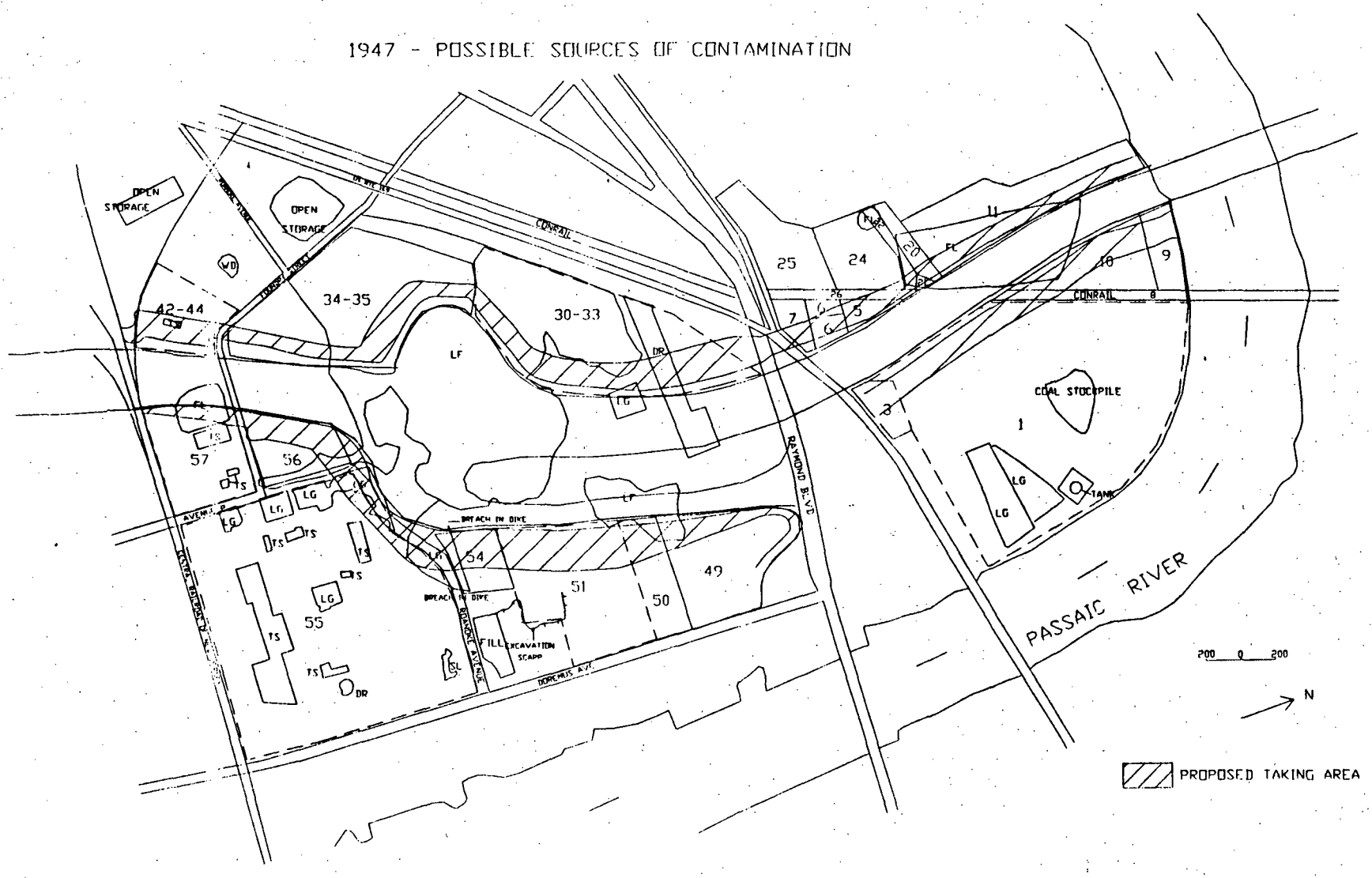


ATTACHMENT G-22



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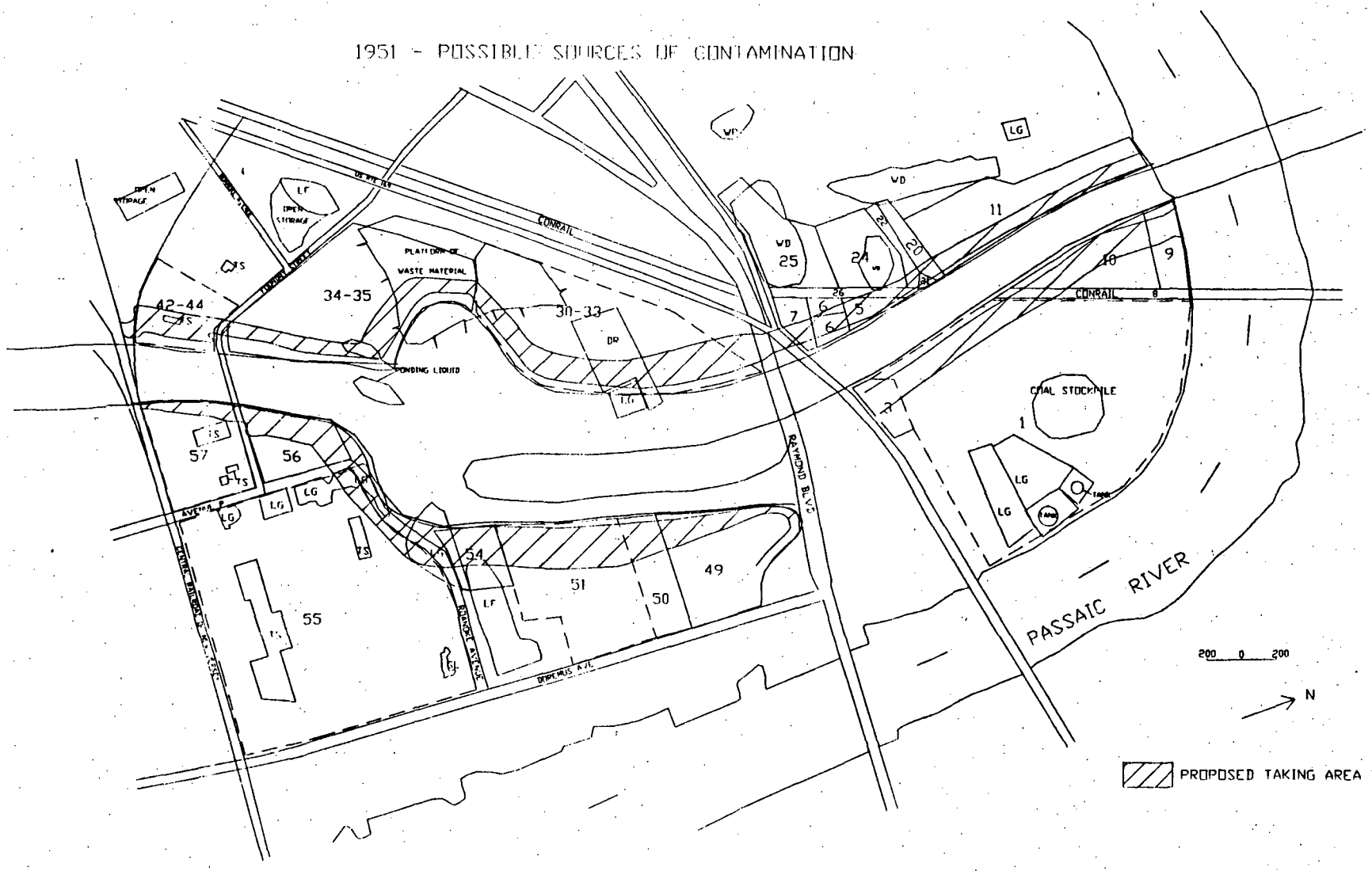
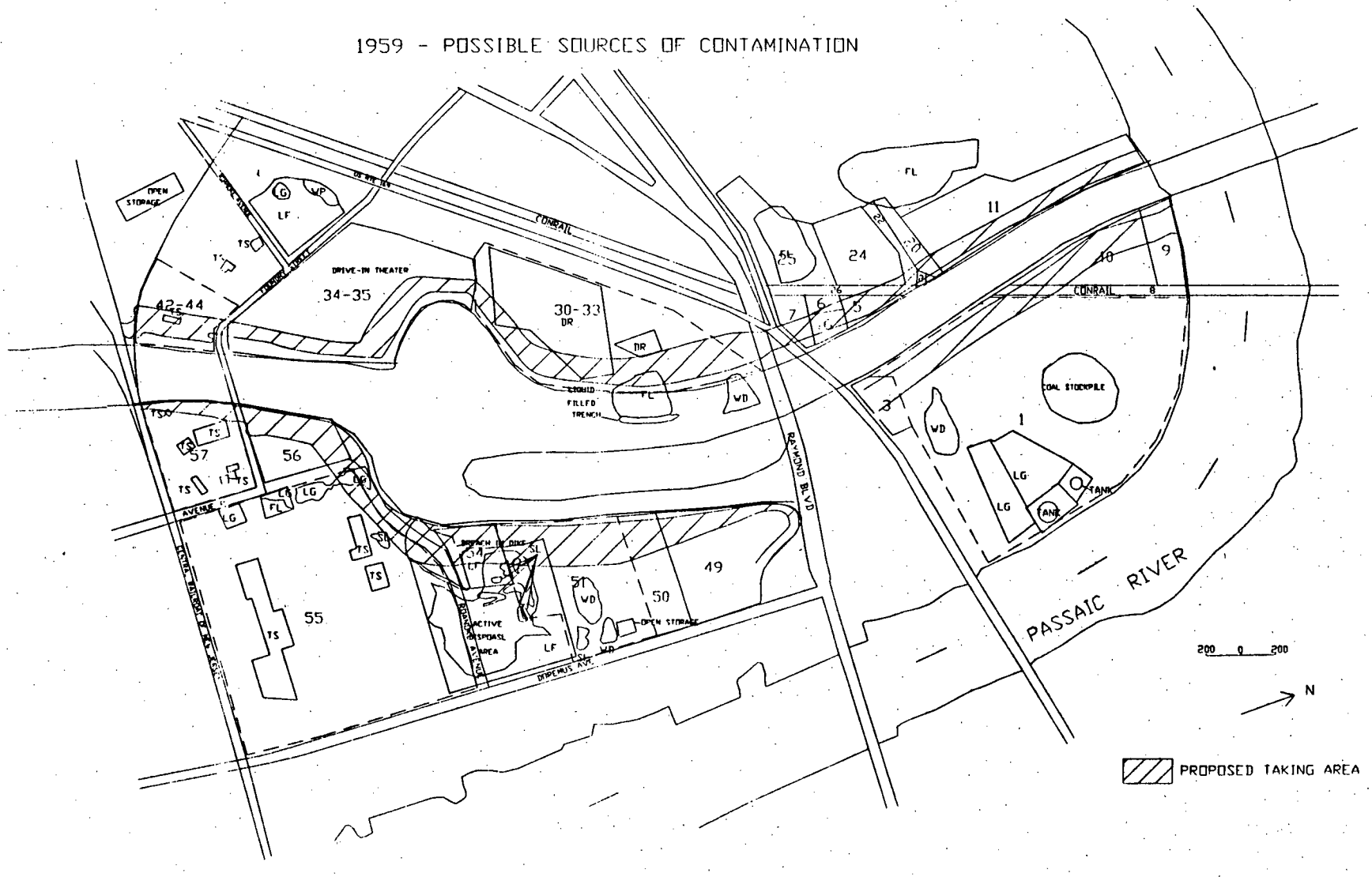
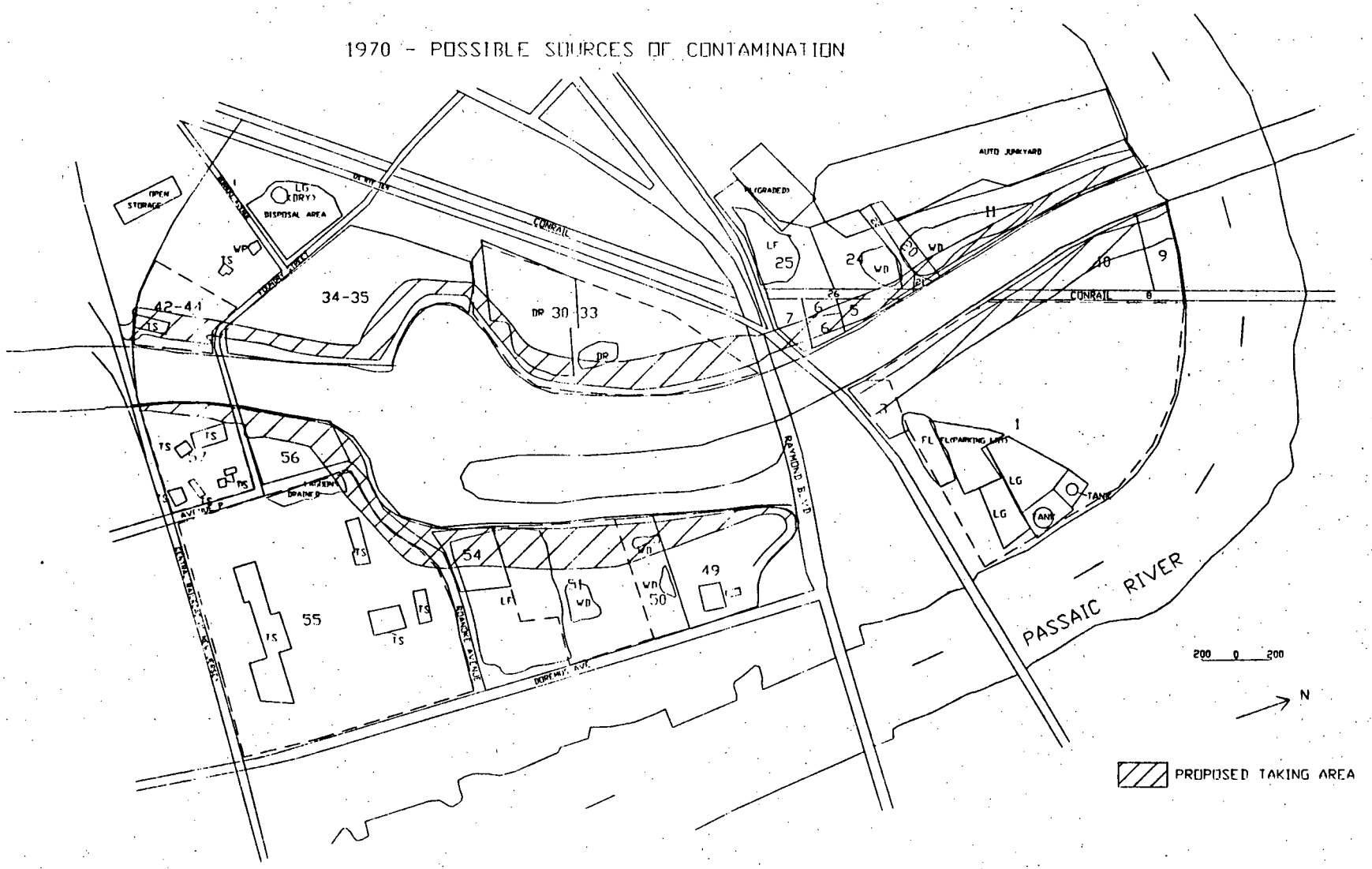


ATTACHMENT 6-24

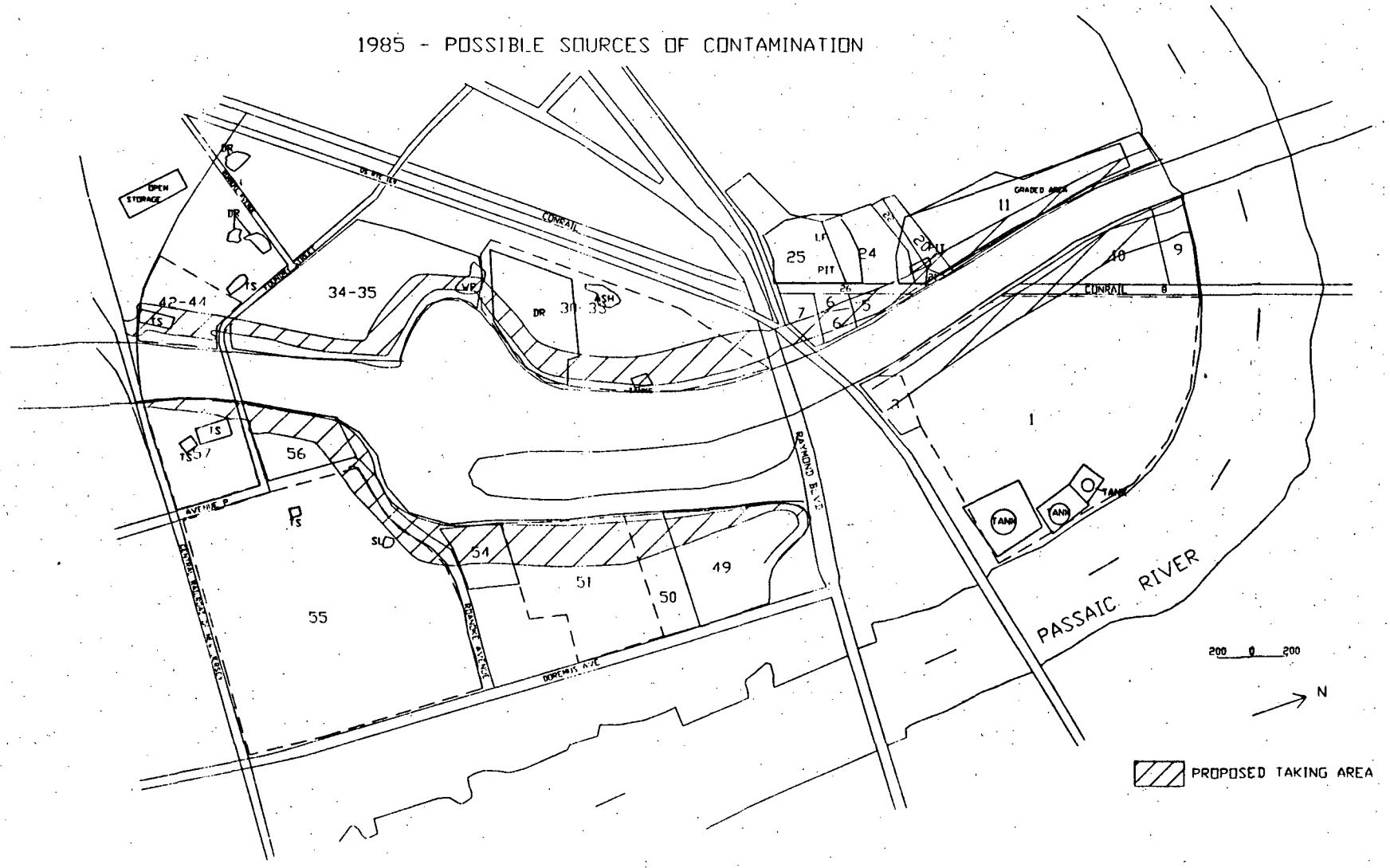
ATTACHMENT C-2





ATTACHMENT G-26

ATTACHMENT 6-22



Orig → BFO
copy → Fred

07-14-34

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Agency for Toxic Substances
and Disease Registry

Memorandum

Date FEB 6 1987

From Environmental Engineer
Office of Health Assessment

Subject Bayonne Drum Reclamation Site (RC-87-003B)
Bayonne, New Jersey

To William Q. Nelson
Public Health Advisor
EPA Region II
Through: Director, OHA, ATSDR MB
Health Assessment Coordination Activities, OHA, ATSDR JH
Acting Chief, HAB, OHA, ATSDR CF

EXECUTIVE SUMMARY

The Bayonne Site was formerly operated under the Resource Conservation and Recovery Act (RCRA). The owner of the site filed for bankruptcy and the RCRA activities ceased. The site is used for the repair and storage of shipping containers and for truck repairs. Remains of the RCRA activities include in excess of 30,000 barrels stored in rows, an ash or residue pile, an aboveground storage tank, and a belowground storage tank. Several of the buildings used during the RCRA operation are also present. Site investigations have shown the presence of heavy metals, primarily cadmium, chromium, lead, and polynuclear aromatic hydrocarbons, and petroleum hydrocarbons in the soil. Analysis of the groundwater on the site showed the presence of small quantities of total petroleum hydrocarbons, polychlorinated biphenyls, and base/neutrals in both background samples and site samples. The levels of contaminants found indicate that the groundwater is not usable for drinking purposes regardless of whether remedial actions are taken on the site.

DOCUMENTS REVIEWED

Soils and Ground Water Characterization, Bayonne Barrel and Drum Company, Newark, New Jersey, Job No. 84C182; Dan Raviv Associates, Inc., July 1986.

ATTACHMENT H-1

Results of Preliminary Investigation and Sampling in Proposed New Jersey Turnpike Right-of-Way at the Bayonne Barrel and Drum Site, Newark, New Jersey; Louis Berger & Associates, Inc.; December 1986.

STATEMENT OF THE PROBLEM

This is a former RCRA site. The owner has declared bankruptcy and ceased drum reclamation activities. Surface and subsurface soil and groundwater contamination have been discovered and the Environmental Protection Agency (EPA) is concerned about whether the levels found pose a threat to human health. The Agency for Toxic Substances and Disease Registry (ATSDR) was asked to comment on the data in the reports named above, comment on whether any of the area should be restricted, and review a sampling plan for sampling around the office area.

DISCUSSION

The possible environmental pathways for human exposure to the contaminants at this site are inhalation, ingestion, or skin contact. The groundwater in the area is not used for drinking, cooking, bathing, or any other known method of human contact.

The two reports reviewed showed levels of various contaminants in the soil, surface water, and groundwater. The media of most concern is surface soil.

Groundwater: The Dan Raviv report evaluated the groundwater quality in two background monitoring wells, one well point, and two shallow monitoring wells. The levels of total petrochemical hydrocarbons (TPHC) in both the background wells indicate that the off-site groundwater is already contaminated with these materials. The well point, BBDC-5, indicated that the TPHC is elevated in the upper zone of the groundwater; however, the TPHC was not speciated. Therefore, it is not possible to determine the toxicity of this material since the species is unknown.

Polychlorinated biphenyls were found in well point number BBDC-5 near the oil storage tanks (53 ppb). Di-N-Butylphthalate (28ppb) and napthalene (14 ppb) were found in well BBDC-4 near the furnace residue pile. Neither of these chemicals has an EPA maximum contaminant level under the Safe Drinking Water Act. Neither is listed as a carcinogen. Sittig lists the allowable level for Di-N-Butyl Phthalate in water for protection of human health as 34,000 ug/l. Metals were analyzed in well BBDC-4; however, none of the levels were of public health concern. The Louis Berger report showed elevated levels of volatile organics, acid extractable organics, and total phenolics in monitoring well MW #2, near the northeast edge of the tire pile. It showed no contaminants of public health concern in MW #3 in the tank storage area.

Surface Soil: Both reports named above evaluated the level of contamination of surface soil. The report by Louis Berger & Associates only covered the proposed New Jersey Turnpike right-of-way. The Raviv report covered the entire site.

Several areas warranted an evaluation because of the levels of contaminants found. The residue pile, resulting from incineration of the contents of reconditioned barrels, and the area immediately adjacent to the residue pile, were such areas. These areas showed elevated levels of cadmium, chromium, and lead. The cadmium at 1300 ppm may be high enough to be of concern, depending on the exposure of the workers around the site. The levels normally used to decide whether a soil concentration of a contaminant is sufficient to be of concern are normally determined based on assumptions of quantities of soil ingested. The amount of soil ingested by workers at a site such as this one has not been well documented; therefore, an estimate of the levels of concern for soil contaminants at this site is difficult. Inhalation may be of a higher concern. A determination of the dust levels in the air found on the site would be necessary to estimate the intake of cadmium, or any other material in the

ATTACHMENT H-3

soil, for the workers. However, in view of the levels of cadmium found, versus the levels which are used for removal in residential areas, the 1300 ppm appears to be a potential threat to human health. Since this high level only occurs in the area around the residue pile, it appears that the area of concern can be isolated.

The concentration of chromium around the residue pile is also elevated; however, the valence state of the chromium was not given. This is very critical since the +6 state is much more toxic that the +3 state. The maximum value (3400 ppm) is slightly in excess of the maximum level found in supposedly uncontaminated soil (3000 ppm) (Parr). Since it is unlikely that a large part of the chromium is in the +6 state, due to its reacting with other chemicals on the site, the level of chromium is not considered to be a concern. [redacted]ium was also found at elevated levels in the incinerator area. T[redacted]und at so[redacted]he [redacted]

The maximum lead concentration in soil at the residue pile is 8400 ppm. The Centers for Disease Control (CDC) has made a statement that soil lead concentrations of 500 to 1000 ppm in a residential area can result in an increase in the blood lead levels of children above background. Children normally have a higher ingestion rate for soil than adults and have a lower body weight, so exposure to lead in soil is a higher concern than for adults. [redacted] h[redacted]t is highly unlikely that children will enter the site, and it is also unlikely that the site will ever be anything other than an industrial site.

Total petroleum hydrocarbons (TPHC) were found in high concentrations (maximum 39,400 ppm) in the surface sediments on the site. However, the species of the TPHC were not stated. This is important because, as in the

ATTACHMENT H-4

case of chromium, the species present will determine the toxicity of the material. The more volatile compounds will have evaporated, leaving the less mobile, heavier compounds. The most likely route of entry for these heavier compounds is through inhalation during combustion, which is not likely at this site. Even higher concentrations of TPHC were found in the subsurface soils (59,000 ppm at 6-7 feet at site BBDC-3 or 171,000 ppm at BBD-8 at 3 feet).

Polychlorinated biphenyls were found near the residue pile at 65 ppm at BBD-14. High levels (213 ppm) were also found near the storage tanks at location BBD16. Elevated levels of PCBs were found in two of the buildings (80 ppm at BBDS-2 and 11.1 ppm at BBDS-4). Routes of exposure for PCBs are usually through inhalation or skin contact. [redacted]

[redacted]

Naphthalene (420 ppm) and bis(2-Ethylhexyl)phthalate (410 ppm) were found in soil near the tire pile. Naphthalene is not a known carcinogen. Allowable soil concentration for Bis(2-Ethylhexyl)phthalate, based on an Acceptable Daily Intake of 0.6 ug/kg/day (Sittig), is likely to be in excess of 420 ppm for an industrial site. Although this value does not consider the carcinogenicity of the compound, it provides an idea of possible levels of concern. Other base/neutrals and acid extractable compounds are found in the area on the northeast edge of the tire pile. Due to the fact that these elevated levels are found near the northeast edge of the tire pile and not at the southeast corner of the pile, there appears to have been a localized event in this area.

ATTACHMENT H-5

Phenol was present on the site at a maximum concentration of 20 ppm. This is not a significant level in soil.

[redacted]

A sampling plan was proposed in a memo dated November 26, 1986, from Mr. Stanley Siegel to Mr. Richard Spear. This plan appears to be adequate, with the exception of its [redacted]. It should also include the [redacted]

[redacted]

1. Isolate the residue pile from mechanical disturbance and from wind and precipitation.

2. Characterize the areas around the residue pile and around the tire pile to determine the amount of soil which contains levels of cadmium similar to those levels already found.

3. Restrict foot traffic around the residue pile and the tire pile to avoid moving the contaminants and to avoid human contact with these areas.

4. Perform air monitoring to determine the amount of particulates and vapors to which workers may be exposed. Include the area near the office building.

ATTACHMENT A-6

5. Prevent off-site migration of soil from the residue pile or from the area around the tire pile.

6. Characterize the contents of the belowground and aboveground tanks.

7. Characterize the contents of the stored drums.

8. Assure that appropriate worker hygienic practices are followed for those with activities in the outside areas, including the provision of clean work clothing daily. All work clothing and shoes should be left on-site and not taken home. Smoking, drinking, and eating should not be allowed in the contaminated area.

9. Fugitive dust during present operations or during cleanup operations should be prevented.

10. The sampling plan proposed in the memo from Mr. Stanley Siegel to Mr. Richard Spear should include sampling the soil in the area around the tire pile for base/neutral compounds to delineate the area of concern.

11. Include Raviv wells BBDC4 and BBDC5 in the sampling plan.

12. Sample the soil near the office building for metals, base/neutrals, and polychlorinated biphenyls.

REFERENCES

Sittig, Marshall, "Handbook of Toxic and Hazardous Chemicals and Carcinogens," 2nd Edition, Noyes Publications, 1985

Bowen, H.J.M., "Environmental Chemistry of the Elements," Academic Press, New York, 1979.

ATTACHMENT A-7

U.S. Department of Justice

SEP 26 1988

DTB:MOH
90-7-1-367

Washington, D.C. 20530

September 21, 1987

Donna Gaffigan
Hazardous Site Litigation
Specialist
NJDEP
65 Prospect Street
Trenton, N.J. 08618

Re: United States v. Bayonne Barrel and Drum Co., et al.
Civ. No. 87-786 (MTB)

Dear Donna:

Following up on our conversation of September 14, 1988, it would be greatly appreciated if you would let me know the names of the individual(s) assigned to the Bayonne Barrel & Drum site in Bayonne, N.J. As we have discussed by phone, the United States' litigation against Bayonne Barrel & Drum and its President, Frank Langella, is moving rather quickly, with discovery now completed and dispositive motions due to be filed within the next couple of months.

Defendants are presently hoping to sell the site to an entity that would agree to create and execute a closure plan so that the site can once again be used. However, it is, of course, necessary that the State participate in the decision of whether the proposed closure plan is adequate.

Please forward this letter to whatever individual(s) will handle this matter for the State, and ask that person to contact me as soon as possible. If you are unable to determine which individual from the State will be handling it, please let me know who I should contact to pursue this further.

Thank you very much.

Very Truly Yours,

Assistant Attorney General
Land and Natural Resources Division

By: Michael O. Hill
Michael O. Hill, Attorney
Environmental Enforcement Section

cc: Amy Chester, Esq.

202-633-2802

ATTACHMENT I-1

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

GEORGE G. McCANN, P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Frank Langella
154 Raymond Blvd.
Newark, NJ 07105

FEB 11 1988

Dear Permittee:

Re: 15E Sanitary Landfill (Formerly Multiplex Cinema)
NJPDES Permit No. NJ0064068

Enclosed is the final New Jersey Pollutant Discharge Elimination System (NJPDES)/Discharge to Ground Water Permit Major Modification to discharge pollutants to the ground waters of the State, issued in accordance with the New Jersey Pollutant Discharge Elimination System Regulations, N.J.A.C. 7:14A-1 et seq. Violation of any condition of this permit may subject you to significant penalties.

The following represents the Department of Environmental Protection's (Department) response to comments submitted to the Department during the public comment period for the draft NJPDES Major Modification.

A. COMMENTS SUBMITTED TO THE DEPARTMENT ON JULY 1, 1987 BY REPRESENTATIVES FOR NATIONAL AMUSEMENTS

1. COMMENT: The commenter requested that a plenary administrative hearing be conducted prior to the Department's taking final action regarding this permit.

RESPONSE: In accordance with N.J.A.C. 7:14A-8.9, an adjudicatory hearing may be requested within 30 calendar days following the service of notice of the Department's issuance of a final draft permit, discharge allocation certificate, or final permit. The request for a plenary administrative hearing on the draft major modification is therefore inappropriate and is denied.

2. COMMENT: The commenter states that his client never operated

ATTACHMENT I-1

a landfill or conducted landfilling activities at the site. Any landfilling that took place on the site occurred decades prior to his client's purchase of the property. National amusements had no knowledge of the landfill operations when they purchased the property.

RESPONSE: In accordance with N.J.A.C. 7:14A-1.2(e)10, the Department may issue permits under the NJPDES permit program for discharges from operating and non-operating sanitary landfills. The Department has determined that a NJPDES discharge to ground water permit shall be issued to the operator of a landfill if it is active, and to the property owner if the landfill has ceased operations. Since the 15E landfill has ceased operations, the property owners are the proper permittees. In accordance with N.J.A.C. 7:14A-2.1(b), a person who currently owns any part of a facility which include an activity regulated pursuant to subchapter 2 of the NJPDES regulations shall obtain a NJPDES permit.

3. COMMENT: There is no statutory authority for the Department to require National Amusements to undertake a joint monitoring program with other permittees, which may require installation of monitor wells on property owned by other permittees. The program is unreasonable and unwarranted; its requirements violate State and Federal Constitutional provisions, including, but not limited to due process and equal protection. It also constitutes an unconstitutional "taking" of property without just compensation.

RESPONSE: Pursuant to N.J.A.C. 7:14A-2.1(b) and (c), a person who currently owns any part of a facility which includes an activity regulated pursuant to subchapter 2 of the NJPDES regulations shall obtain a NJPDES permit. Whenever more than one person is required to obtain a NJPDES permit for one or more activities at a specific site, the Department shall issue a single permit which lists all these persons as permittees. It is the responsibility of the permittees to coordinate implementation of the permit requirements in order to remain in compliance with the permit conditions.

B. COMMENTS SUBMITTED TO THE DEPARTMENT ON AUGUST 7, 1987, ON BEHALF OF JOMAN REALTY COMPANY, BAYONNE BARREL AND DRUM COMPANY, AND MR. FRANK LANGELLA.

1. COMMENT: The Department appears to have very little information about this site. It is incumbent upon the Department to establish the existence of a landfill and its exact boundaries before the issuance of any permits.

RESPONSE: Soil boring descriptions submitted to the Department on behalf of National Amusements as part of their disruption permit application package show that fill material underlies the portion of the site owned by National Amusements.

A December, 1986 report entitled "Preliminary Site Investigations: New Jersey Turnpike 1985-90 Widening From

ATTACHMENT J-2

Passaic River to Milepost 105", was prepared by Louis Berger & Associates, Incorporated and submitted to the New Jersey Turnpike Authority. This report used remote sensing techniques to delineate historical (1934-1985) sources of possible contamination along a portion of the New Jersey Turnpike. This report showed that a landfilling operation took place at the 15E sanitary landfill site within the boundaries shown on Attachment One of the NJPDES Draft Major Modification between the years 1934 and 1947. On March 19, 1987, Geologist Erick Kinsel of the Department reviewed historical aerial photographs of the site in question. His findings support the limits of the landfill as shown on Attachment One of the permit.

2. COMMENT: The commenter asserts that the current property owners are the inappropriate permittees, as no current property owner of the site has ever engaged in the business of solid waste collection or disposal on the site. The proper permittee would be the entity which operated this landfill facility.

RESPONSE: See response to comment A.2.

3. COMMENT: Citing portions of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the commenter asserts that a permit can be required only when there is evidence that a discharge is in fact occurring. As a review of the Department's files showed no evidence that leachate is entering the ground water at the site, the permit has no legal or factual basis for its issuance and should be withdrawn.

RESPONSE: According to N.J.A.C. 7:14A-6.1(a)1, a NJPDES Discharge to Ground Water permit is required:

> "for all discharges, past or present, actual or potential, of pollutants, including hazardous and non-hazardous waste as defined in N.J.A.C. 7:14-1.9, to groundwater or onto land which might flow or drain into the waters of the State" (emphasis supplied).

By their existence, landfills have the potential to degrade the ground and surface waters of the State. Therefore, all landfills require ground water monitoring in accordance with the NJPDES regulations. N.J.A.C. 7:14A-1.2(e)10 requires that a NJPDES permit be issued for discharges from operating and non-operating sanitary landfills.

Furthermore, N.J.A.C. 7:14A-10.12(e)2 viii states that ground water monitoring wells are required for detection of ground water contamination from landfill leachate.

4. COMMENT: The cover letter accompanying the draft permit indicates that each of the individuals or entities receiving the permit is jointly and severally responsible for conduct of the entire monitoring program. Assuming that the permit is properly issued in the first instance, each permittee can legally be responsible only for monitoring activities pertaining to its

ATTACHMENT J-3

New Jersey Pollut[illegible]
Discharge [illegible]

[illegible] New Jersey Department of Environmental Protection hereby [illegible] [illegible] waters of the State from the [illegible] [illegible] applicable laws and regulations. The permittee is responsible for complying with all terms and conditions of this authorization and agrees to said terms and conditions as a requirement for the construction, installation, modification or operation of any facility for [illegible] collection, treatment or discharge of any pollutant to waters of the State

PERMIT NUMBER NJ0064068

Permittee	Co-Permittee
MULTIPLE PERMITTEES SEE BELOW	SEE LIST BELOW

Property Owner	Location of Activity
MULTIPLE PROPERTY OWNERS SEE LIST BELOW	15E SANITARY LANDFILL ROUTE 1 AND FOUNDRY STREET NEWARK, NJ

Type of Permit Covered By This Approval	Issuance Date	Effective Date	Expiration Date
F :Landfill - Ind/Comm.Waste	2/15/88	3/15/88	2/28/90

PERMITTEES	PROPERTY OWNERS
1.Bayonne Barrel & Drum Co.	1.Bayonne Barrel & Drum Co.
2.Edle Realty, Inc.	2.Edle Realty, Inc.
3.The Joman Realty Co.	3.The Joman Realty Co.
4.Mr. Frank Langella	4.Mr. Frank Langella
5.NJ Turnpike Authority	5.NJ Turnpike Authority

This is a Major Modification of an existing NJPDES Permit.

By Authority of:
George G. McCann, P.E.
Director
Division of Water Resources

DEP AUTHORIZATION
Arnold Schiffman, Administrator
Water Quality Management

(Terms, conditions and provisions attached hereto)

[illegible] New Jersey Department of Environmental [illegible]

NJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPDESNJPD

ATTACHMENT I-4

Permittees and Property Owners

1.Bayonne Barrel & Drum Co.
154 Raymond Blvd.
Newark, New Jersey 07105

2.Edle Realty
200 Elm Street
Dedham, MA 02116

3.The Joman Realty Co.
P.O. Box 480
Wilkes-Barre, PA 18703

4.Mr. Frank Langella
154 Raymond Blvd.
Newark, New Jersey 07105

5.New Jersey Turnpike Authority
P.O. Box 1121
New Brunswick, New Jersey 08903

ATTACHMENT F5

Mark Narbutis
Louis Berger Associates

FACT SHEET

for LANDFILLS to Discharge Into the Ground Waters of the State

---

NAME AND ADDRESSES OF PERMITTEES:

Bayonne Barrel and Drum Co.
154 Raymond Blvd.
Newark, NJ 07105

Edle Realty, Inc.
200 Elm Street
Dedham, MA 02116

The Joman Realty Co.
P.O. Box 480
Wilkes-Barre, PA 18703

Mr. Frank Langella
154 Raymond Blvd.
Newark, NJ 07105

New Jersey Turnpike Authority
P.O. Box 1121
New Brunswick, NJ 08903

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

15E Sanitary Landfill (Formerly Multiplex Cinema)
Route 1 & 9 and Foundry Street
Newark, Essex County

RECEIVING WATER:

Ground waters of the State. The discharge is to the Brunswick Formation, which is Triassic in age.

DESCRIPTION OF FACILITY:

The 15E Sanitary Landfill site is a closed unregistered 45 acre (approximate) facility which accepted bulky wastes (construction and demolition debris).

This draft major modification differs from the original NJPDES/DGW Permit in that the designated facility name is being changed from the Multiplex Cinema Site to the 15E Sanitary Landfill, additional owners of the landfill site are being included as permittees, and additional ground water monitoring wells are to be installed at this site.

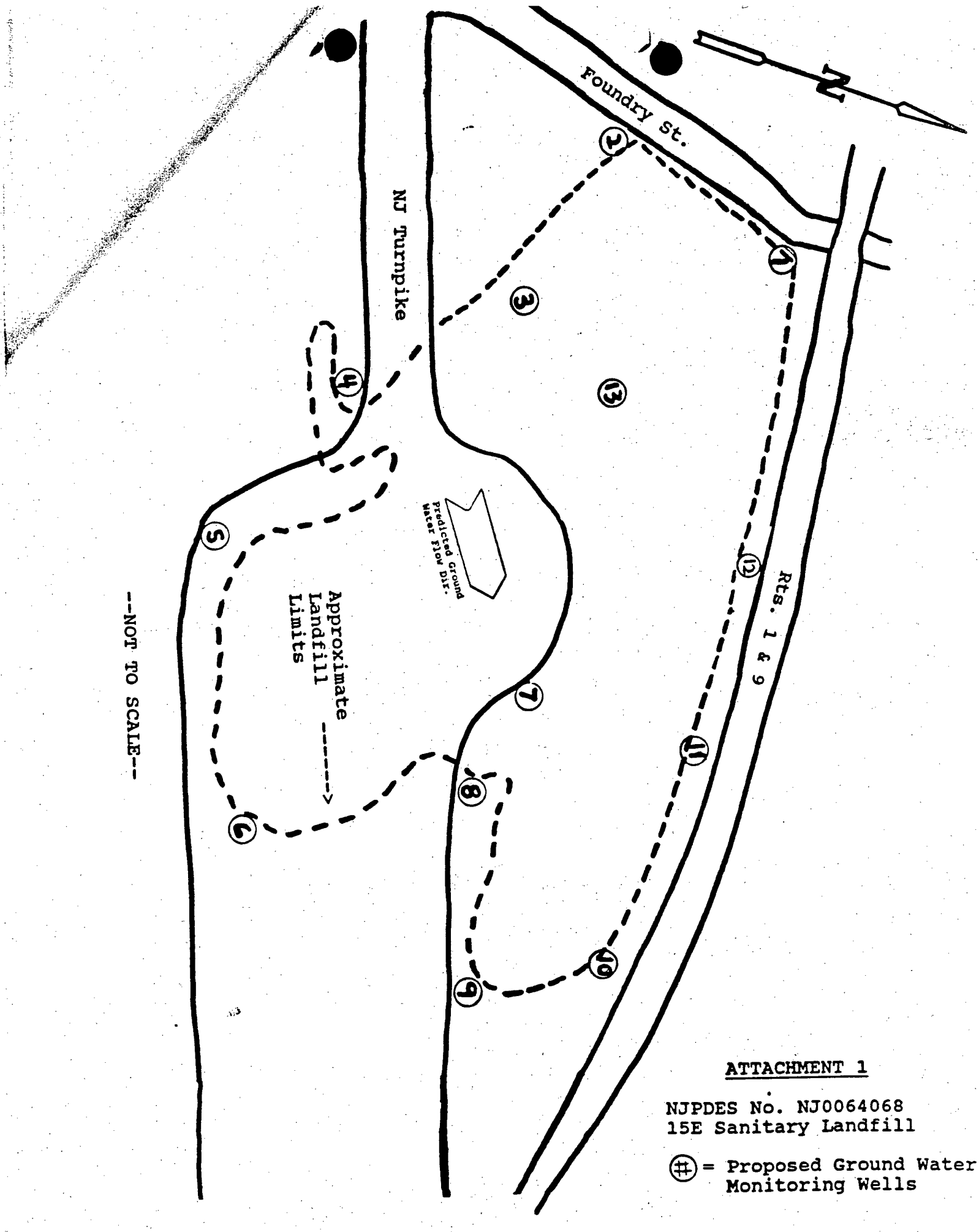
DESCRIPTION OF NJPDES GROUND WATER MONITORING PERMIT:

The discharge from the landfill is in the form of leachate. Thirteen (13) ground water monitoring wells will be tested on a periodic basis.

PERMIT CONDITIONS:

Issue the NJPDES Permit with the attached general and special conditions.

ATTACHMENT J-6



ATTACHMENT 1

NJPDES No. NJ0064068
15E Sanitary Landfill

(#) = Proposed Ground Water Monitoring Wells

ATTACHMENT J-7

NEW[redacted]EY DEPARTMENT OF ENVIRONMENTAL PROT[redacted]
DIV[redacted]ION OF WASTE MANAGEMENT

Including Sketch

INVESTIGATION

CASE #: 88-06-30-1300 DWM FILE #: 07-14-364

TIME ARRIVED: 1115 hrs

INVESTIGATOR: Peter I. Davis DATE: 7/6/88 TIME DEPARTED: 1205 hrs

LOCATION: Ramp AV NJTP PROPERTY OWNER: NJTP

ADDRESS: Rt 1 & 9 Truck Ave @ NJTP Exit 15 East Newark, NJ MAILING ADDRESS: Parkway Ave Ewing, Trenton NJ

LOCATION TELEPHONE #: None BLOCK: LOT:

EPA ID #: None

LOCAL HEALTH DEPT. REP. TELEPHONE #:

ORIGIN OF COMPLAINT: NJTP Report TELEPHONE #:

NATURE OF COMPLAINT: Contaminated Soils near to Buyarre Barrel & Drum

PHOTOGRAPHS TAKEN: No SAMPLE #: No

FINDINGS: Contacts: Tim Steinbuger - DoT/Env. Support Section
Richard Oki - Lewis Berger Engineering Co

Observations:

1115 hrs Wednesday, July 06, 1988 P. Cole and I conducted a follow-up inspection at the N.J. Turnpike AV Ramp. Richard Oki, Tim Steinbuger and two Berger Engineering Co workers were on site. By the time Phil and I arrived on site Richard Oki was in the process of obtaining a second soil sample from bore hole AV-SL7. Oki reported AV-SL5 had a H.NU reading of 150 ppm with a LEL reading of 50% and 0% from within the breathing zone.

Once bore hole AV-SL7 was drilled Richard Oki reported 0-3 ppm from the H.NU and a LEL of 65%.

This hole emitted very strong odors which Richard Oki identified as Hydrogen sulfide gases. Lewis Berger laborers were instructed to clear the bore hole area until the gas vapors subsided. After leaving the bore hole open for approximately 10 minutes. The bore holes LEL reading was 44%. After an additional 10 minutes wait the LEL read at 35%.

By the time the sulfide gas

ATTACHMENT K-1

DIVISION OF WASTE MANAGEMENT

INVESTIGATION

Sketch

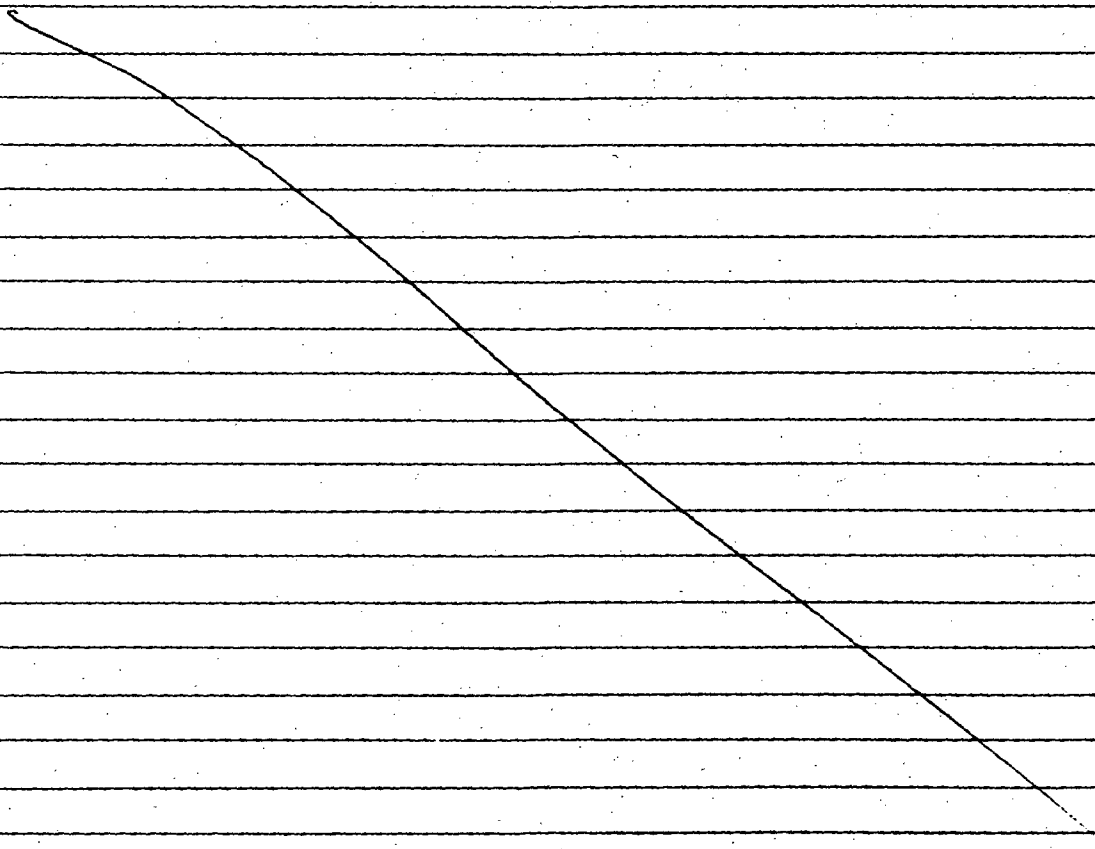
CASE # [redacted]-06-30-1300

DATE: 07/06/88

FINDINGS AND SUMMARY:

By the time the Hydrosulfide gas subsided it was 12 o'clock noon, the workers on site were taking there noon lunch break. Additional soil boring would take place after lunch.

1205 P. Cole & I left the site



Supervisor Signature

Investigator Signature

COPIES: White - DWM File Yellow - Local Health Dept. Pink - Investigator

ATTACHMENT K-2

DIVISION OF WASTE MANAGEMENT

INVESTIGATION

CASE #: 88-06-30-1300 DEP FILE #: 0 - -

TIME ARRIVED:

INVESTIGATOR: Cole DATE: 7/5/88 TIME DEPARTED:

LOCATION: Ramp AV NJTP PROPERTY OWNER: NJTP

ADDRESS: Rt 1 & 9, Doremus Ave @ NJTP Exit 15 W/E Newark NJ MAILING ADDRESS: Parkway Ave, Ewing/ Trenton NJ

LOCATION TELEPHONE #: None BLOCK: LOT:

EPA ID #: None

LOCAL HEALTH DEPT. REP. TELEPHONE #:

ORIGIN OF COMPLAINT: NJTP Report TELEPHONE #:

NATURE OF COMPLAINT: Contaminated Soils near to Bayonne Barrel & Drum

PHOTOGRAPHS TAKEN: No SAMPLE #: No

FINDINGS:

Contacted: Mr. Tim Steinbeiser - DOT/Env. Support Section
Mr. Richard Oki - Lewis Berger Engineering Co.

Observations:

Warren George well Drillers were on site doing core-samples for Lewis Berger-DOT, Split spoon samples being ~~taken~~ taken for analysis by DOT contract. Split spoon being decon- between use, site personnel Level-D. Mr. Rich Oki, Hydrogeologist reports he observed fuel oil contamination at 9-10 ft interval. I am unable to confirm this report as I observe no odor at the soils. Second attempt, I observe hydrogen sulfide gas-like odor. Rich Oki reports Bayonne Barrel & Drum had an underground fuel oil tank, bottom of which is/was 9 ft below grade, he suspects this tank is/was source of this fuel oil. Mr. Tim Steinbeiser reports large Base-Neutrals contamination detected in earlier samples taken due east of this area. He further states that a map shows this area was once owned by Bayonne Barrel and was used for waste storage. Mr. Steinbeiser states that sampling will also continue tomorrow Wednesday 6 July 1955.

ATTACHMENT K-3

DOT OFFICER NOTIFICATION REPORT

CASE NO. 87 - 06 - 11 - 1039 (Mo) (Day) (Time)

DATE 06 - 11 - 87 (Mo) (Day) (Yr) REC'D BY PAIS via Dave 1048 / BEP I (Office)

INCIDENT REPORT BY:
Name WAYNE Smith Phone 609-530-2975
Street 951 PARKWAY AVE
City TRENTON State NJ
Affiliation/Title NJ DOT

INCIDENT LOCATION: ___ Transportation ___ Facility X Other
Name (Site): Construction Site Phone
Street Rt 1 & Rt 9 Section 1S
City ~~Jersey City~~ NEWARK County ~~Hudson~~ ESSEX State ___ Zip Code ___
Date of Incident: 06 (Mo) 09 (Day) 87 (Yr) Time: UNK

IDENTITY OF SUBSTANCE(S) SPILLED, RELEASED, ETC.: ___ Known ___ Suspected X Unknown
Name of Substance(s) [Gas/Liquid/Solid]: N/A wet
CAS Number: UNK
Amount Released/Spilled UNK ___ Actual ___ Potential ___ Estimated
Substance Contained (Y/N/U)
Type of Release/Spill: ___ Terminated X Continuous ___ Intermittent
Hazardous Material (Y/N) UNK

NATURE OF INCIDENT: X Complaint ___ Munic. Notification ___ Emergency ___ Sub. 20

INCIDENT DESCRIPTION:
___ Fire ___ Explosion ___ Air Rel X Spill ___ MVA ___ Derailment ___ Smoke/Dust
___ Odors ___ Sewage ___ NJPDES ___ Noise X Illegal Dumping ___ Wildlife
___ Equip Start-up/Shutdown, Equip Fail/Upset, etc.
___ Other (specify)
Injuries (Y/N/U) Odors but other than No medical Attn Public Exposure (Y/N/U)
Facility Evacuation (Y/N/U) Police at Scene (Y/N/U)
Contamination of ___ Air X Land ___ Water Assistance Requested (Y/N/U)
Potable Water Source (Y/N/U) Wind Direction/Speed /
Receiving Water NONE Precipitation (rain/snow)
Location Type: ___ Residential X Industrial ___ Rural ___ Sensitive Population (Hosp.,School,Nurs. Home)

STATUS AT INCIDENT SCENE Liquid waste in ground has made some workers sick
Construction at site has ceased Mr Smith does not know if workers have gone to Hospital or not

RESPONSIBLE PARTY: ___ Known ___ Suspected X Unknown
Company Name Phone ATTACHMENT 4-1
Contact Title
Street
City County State Zip Code

OFFICIALS NOTIFIED (Name/Title):
NJSP: Will be called by ~~State~~ Dispatch Phone Date/Time / (T/M)
Local Health Jack Farley / Sussex Co Reg Phone 673 1174 Date/Time 6/11/87 / 1120 (T/M)
Local Munic: / Phone Date/Time / (T/M)
USEPA: / Phone Date/Time / (T/M)

INCIDENT REFERRED TO:
___ DEQ ___ DWR ___ DSWM ___ DHSM X DHWM ___ DOH ___ DEG ___ DPF ___ DCJ ___ DCR
Region: ___ Northern X Metro ___ Central ___ Southern ___ ER1 ___ ER2
1. Name/Affil DAVE Beeman / DHWM Phone 609-3960 Date/Time 6/11/87 / 1125 (T/M)
2. Name/Affil / Phone Date/Time / (T/M)
3. Name/Affil Beeman 6/12/87 / Phone Date/Time / (T/M)

INCIDENT NOTIFICATION REPORT

U119

☒ TRENTON DISPATCH ☒ DIV. OF W[illegible] MANAGEMENT ☐ DIV. OF ENVIR. QUALITY ☐ DIV. OF WATER RESOURCES

☐ HQ FIELD OFFICE: ☐ NORTHERN ☒ METRO ☐ CENTRAL ☐ SOUTHERN

DATE 09/13/86 TIME (Military) 2256 REC'D BY J. Glore PHONE NO. 669-3960

INCIDENT REPORTED BY: CASE NO. 86.09.13.01M

NAME operator #76 PHONE 733-7400

STREET

CITY Newark STATE NJ.

AFFILIATION Newark fire dept.

NATURE OF INCIDENT:

EMERGENCY: ☐ FIRE ☐ EXPLOSION ☐ DRUMS ☐ SPILL ☐ DERAILMENT ☐ MVA

COMPLAINT: ☐ SMOKE ☐ ODORS ☐ DUST ☐ SEWAGE ☐ NUISANCE ☐ ILLEGAL DUMPING

OTHER: ☐

INCIDENT LOCATION:

NAME (Site) Bayonne Barrel & Drum Co. ☐ UNK PHONE unk.

STREET Rt 139 & Roanoke Ave

CITY Newark COUNTY Essex STATE ZIP CODE

STATUS AT SCENE OF INCIDENT: UNK. Hazardous material is caught on outside fire

DATE OF INCIDENT: 09/13/86 TIME: 2114 Hr

ANYONE HOSPITALIZED	☐ YES ☒ NO	POLICE AT SCENE	☒ YES ☐ NO
AREA EVACUATED	☐ YES ☐ NO	FIREMAN AT SCENE	☒ YES ☐ NO
CONTAMINATION OF	☐ AIR ☒ LAND ☐ WATER	ASSISTANCE REQUIRED	☒ YES ☐ NO
PUBLIC EXPOSURE	☒ YES ☐ NO		
RECEIVING WATER		POTABLE WATER SOURCE	☐ YES ☐ NO
WIND DIRECTION	LOCATION TYPE	☒ CITY ☐ INDUSTRIAL ☐ RURAL	

SOURCE OF INCIDENT/PROBLEM: ☒ KNOWN ☐ UNKNOWN

COMPANY NAME PHONE

CONTACT Fire Co 9022. TITLE

STREET

CITY COUNTY STATE ZIP CODE

IDENTITY OF SPILLED AND/OR DISCHARGED SUBSTANCE: ☐ KNOWN ☒ UNKNOWN

NAME OF SUBSTANCE ATTACHMENT L-2

AMT. A/P/E SUBSTANCE CONTAINED ☐ YES ☐ NO ☐ UNKNOWN

OFFICIALS NOTIFIED: (A-310)

HEALTH DEPT.: PERSON Mr. Nevis PHONE 733-4392 DATE 9/13/86

LOCAL MUNIC.: PERSON PHONE DATE

INCIDENT REFERRED TO: ☐ BFO ☐ BERC ☐ DCJ ☐ DWR ☐ F&G ☐ BAPC ☐ HD

1. PERSON D. Beeman 9/13/86 R PHONE 775-7743 DATE 9/13/86

2. PERSON PHONE DATE

(1)

NEW JERSEY DEPARTMENT
OF
ENVIRONMENTAL PROTECTION

Report of Phone Call

Case Name: 86-09-13-0111

Incident Notification Number:

Date: 9/13/86 **Referred to:**

Time: 0015 hrs (9/14/86)

Bureau or Office: MFO **File:**

Person Contacted: Lt. Ouweleen **Phone Number:** 201-697-3269

Affiliation/Address: NJ State Police (Emergency Mangt Coordinator)

Subject of Call: Fire at Bayonne Barrel & Drum Co.

Summary of Call: Mr. Ouweleen said that at 2325 hrs the fire is out as per Robert Swales (Emergency Mangt Coord) City of Newark, NJ - 201-484-6725. It was a blaze and no hazardous material is involved. The area effected is (50 x 50 ft). He said that there is no need for immediate response.

(I was unable to contact Mr. D. Beeman (MFO) & rely the message to him, since he was on his way to respond.

ACTION RECOMMENDED:

ATTACHMENT M-2

Notebook

cies TO: Rogalski Beera + Central files 5/2

U.S. ENVIRONMENTAL PROTECTION AGENCY

POLLUTION REPORT

16 MAY 1985

DATE: April 22, 1985

Region II
Response and Prevention Branch
Edison, New Jersey

(201) 321-6670 - Commercial
(201) 548-8730 - 24 Hour Emergency
340-6670 - FTS

TO: C. Daggett, EPA
W. Librizzi, EPA
ERD, Washington, D.C.
(Data Gram)
J. Marshall, EPA
F. Rubel, EPA
USCG 3rd Dist., (mer.)
J. Berkowitz, NJDEP
J. Rogalski, NJDEP

POLREP NO.: One (1) and Final
INCIDENT NAME: Bayonne Barrel and Drum Company
SITE/SPILL NO.:
POLLUTANT: Combustibles from Fire
CLASSIFICATION: Medium
SOURCE: Unknown
LOCATION: Newark, New Jersey
AMOUNT: Unknown
WATER BODY: Passaic River

1. SITUATION:

A. At approximately 0330 hrs. on April 22, 1985, a fire was discovered at the Bayonne Barrel and Drum Company site located at 150 Raymond Blvd. in Newark, New Jersey. The fire occurred near the northern boundary of the twenty (20) acre site, parallel to Routes 1 and 9 eastbound.

B. EPA was not officially notified of the incident. Rather, the Response and Prevention Branch learned of the fire through a radio news report at approximately 0800 hrs. Since a large number of drums containing hazardous wastes were stored at this site and since initial investigation by phone yielded inadequate information, EPA decided that response was warranted.

C. The fire, the source of which is unknown, encompassed a one acre area where approximately 5,000 used automobile tires were stacked. The fire may have spread from brush just outside the site (directly adjacent to Route 1 and 9) to the tires, which were located within 2 feet of the facility fence. Several brush fires along roadsides and railroads occurred throughout the State on this day, a result of this year's exceptionally dry winter and spring.

ATTACHMENT N-1

09 MAY 1985

D. Bayonne Barrel and Drum Company had leased this one acre to Nationwide Tire approximately 4 weeks ago. Nationwide Tire collects used automobile tires from retailers and auto junk yards, then shreds approximately 75% of them for scrap and sells the remaining 25% for recapping.

E. The fire did not affect the southern area of the site where approximately 20,000 drums are stored outdoors. Apparently, these drums are mostly empty and ready to be reconditioned. Bayonne Barrel and Drum Company ceased operations during the Winter of 1983 and has filed for bankruptcy.

2. ACTION TAKEN:

A. At approximately 0344 hrs. on April 22, 1985, security personnel from Bayonne Barrel and Drum Company notified the Newark Fire Department.

B. The Newark Fire Department arrived on site at approximately 0355 hrs. A bulldozer was apparently employed during the firefighting effort as a means of spreading the tires out to mitigate smoldering. The firefighting effort was completed at approximately 0900 hrs.

C. The EPA Response Team arrived on site at 1055 hrs. and conducted air monitoring in the affected area. There was no smoke present and no smoldering from the tires during the EPA site investigation. No elevated readings (above a background of 6 ppm) were observed utilizing the organic vapor analyzer. In addition, no oxygen deficiency or potentially combustible atmospheres were observed utilizing a combustible gas and oxygen meter.

D. The Response Team determined that runoff from water utilized during the firefighting effort had a pH of 6 and was not draining off the property. The Response Team left the site at 1250 hrs.

3. FUTURE PLANS AND RECOMMENDATIONS:

A. Nationwide Tire plans to initiate cleanup measures at the site beginning April 22, 1985.

B. The Newark Fire Department will apparently issue a citation to Nationwide Tire for illegal outdoor storage of tires.

ATTACHMENT N-2

C. A letter report will be issued to document this incident.

CASE PENDS____ CASE CLOSED X SUBMITTED BY _____
Tom Kady
Response and Prevention Branch

(TAT)

Date Released 4/26/85

ATTACHMENT N-3

JUL 25 1985

Dr. Dan Caviv
Dan Caviv Associates
500 Eagle Rock Avenue
West Orange, New Jersey 07052

Re: Cayuga Farrel and Drum Order
Docket No. RCRA-82-0115
EPA I.D. No. NJD980871401

Dear Dr. Caviv:

The United States Environmental Protection Agency ("EPA") approves the "Work Plan" submitted October 5, 1984 as modified by the June 6, 1985 letter from Dr. Caviv to Mr. Cabal. The June 6, 1985 letter was submitted in response to EPA's letter of May 3, 1985 to Dr. Caviv. As modified, the plan covering the sampling and monitoring programs contemplated by paragraphs 5(a), 6(b), 8(a), and 10 of the EPA consent order issued to Cayuga Farrel and Drum Company (Docket No. II RCRA-82-0115)

Of course, other requirements of the Consent Order must still be complied with. As provided in paragraph (six) 6 of the Order, a report with sampling results must be submitted to EPA. As provided in paragraph eleven (11) of the Order, a closure plan must be submitted to EPA. EPA will expect to receive this report/closure plan within thirty (30) days of the time analytical results from sampling at Cayuga Farrel become available from the laboratory. The report/closure plan must include the following information:

1) Analytical results from the sampling;

2) An evaluation of the lateral and horizontal extent of any contamination in soils and groundwater based upon the results;

3) A closure/post-closure plan as required under paragraph no. 11 of the Order including appropriate chapters addressing the following provisions of the EPA Order:

> Paragraph no. 5: Steps to minimize the possibility of fire, explosion, or release of hazardous waste or hazardous waste constituents; (any incidents of fire since the issuance of the Order should be included in this report).
>
> Paragraph no. 7(a)(i): The removal of all liquids and sludge from the above-ground and underground tanks. This should include the submittal of documentation (i.e., manifests) for the proper disposal of this waste.

ATTACHMENT O-1

Paragraph no. 7(a)(iii): The removal of contaminated soil surrounding all storage and tanks and the disposal of the waste in accordance with applicable RCRA regulations.

Paragraph no. 7(b)(i): The removal of soil and stone contaminated with hazardous waste from the oil/water seperator and the disposal of such waste in accordance with all applicable regulations.

Paragraph no. 7 (c): The removal of waste piles and contaminated soil and disposal of both in accordance with all applicable regulations. If by the time of the submittal of the report/closure plan, the waste pile has been disposed of; proper documentation of its legal disposal should be included. The Order also states that a representative of the EPA be present when soil is removed or excavated; therefore the report/plan should provide for contacting EPA two weeks before the time of removal.

Paragraph 7(d)1i: The removal of waste and soil contaminated from the alleyway surrounding the incinerator and the disposal surrounding the incinerator and the disposal of this waste in accordance with all applicable regulations.

Paragraph no. 9: A outline of post closure sampling plan for the four (4) areas designated in Item no. 7(a) - 7(d) to confirm removal of all contaminated soil at the site. As required by the Order these samples shall be collected in the presence of a representative of the EPA.

The adequacy and EPA's approval of the closure plan is contingent upon the completion (and certification) of these items and compliance with the relevant sections of 40 CFR §265.112(a), 40 CFR §265.197 and 40 CFR §265.351 or the equivalent New Jersey regulations.

Sincerely yours

Ted Gabel, Hydrologist
Compliance and Enforcement Section

cc: Wilkie Sawyer, CRC
Stanley Siegal, SWB
Dr. Richard Dime
Mr. Roy Schneider
Mr. Frank Langella

ATTACHMENT 0-2

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

9 APR 1985

Mr. Ted Gable
Environmental Protection Agency
1 Federal Plaza
New York, New York 10278

Dear Mr. Gable:

Staff Scientists from the Hazardous Sites Mitigation Administration have reviewed the proposed work plan for the Bayonne Barrel and Drum Company. I have attached the reviewers comments for your consideration. Feel free to contact this office if we can provide further assistance.

Sincerely,

ORIGINAL SIGNED BY
JORGE BERKOWITZ, Ph. D.

Dr. Jorge H. Berkowitz
Administrator

HS61:sp

ATTACHMENT P-1

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
CN 028, Trenton, N.J. 08625

MARWAN M. SADAT, P.E.
DIRECTOR

JORGE H. BERKOWITZ, PH.D.
ADMINISTRATOR

MEMORANDUM

TO: Robert Predale, Assistant Chief, BEERA

FROM: Dr. Richard Dime, Research Scientist, BEERA R. Dime

SUBJECT: Referral Number M117JB - Bayonne Barrel and Drum Company

I have reviewed the work plan for Bayonne Barrel and Drum Company prepared by Dan Raviv Associates, Inc. (October 1, 1984) and have discussed my concerns with Ted Gable, EPA Region II during a phone conversation. The following concerns should be addressed prior to initiating work on the site.

(1) The work plan indicates that composite samples will be taken, yet insufficient information is provided to determine if compositing with depth will be conducted at each location or if composting of samples taken at a specific depth at different locations is being proposed. In any event, composting should be avoided unless it is understood that if composite samples show elevated levels of contaminants each location comprising the composite will have to be resampled to identify hot spots.

(2) The work plan indicates that samples will be taken to a depth of 12 inches. Samples should be obtained below 12 inches and analyzed only if the sample collected at 12 inches reveals contamination. These samples should be properly preserved, stored and analyzed within acceptable holding times.

(3) A second round of sampling should be conducted around locations that are shown to be contaminated in a manner that delineates the extent of contamination aerially and with depth.

(4) It is difficult to determine if the area contaminated by leachate from the ash pile, the drain into which the leachate flowed and the area where a storage tank overflowed are being sampled. It not, samples in these areas should be collected.

ATTACHMENT P-2

(5) Without seeing the analytical data from the initial sampling event in May 1984, I cannot determine if the analytical parameters suggested in Table II are appropriate. No full priority pollutant scans are indicated in the table although the text (page 10) says three samples will be analyzed for priority pollutants. Clarification is needed.

(6) Samples will be collected from the empty drum storage area, however sufficient detail is not provided concerning depth and compositing of samples.

(7) The sampling protocol (submitted as an attachment) for soils does not correlate with what is stated in the work plan. The sampling protocol indicates discrete samples will be collected at 0-6", 6-12" and 12-18" and does not mention compositing.

(8) The sampling protocol indicates that soil samples for volatile organics will be collected in quart-sized mason jars. These jars should be filled to capacity to minimize the volatilization of compounds into the head space.

HS61:sp

ATTACHMENT P-3

9[illegible]-84

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

In the Matter of BAYONNE BARREL & DRUM COMPANY NJD009871401, Respondent. Proceeding Under Section 3008 of the Solid Waste Disposal Act, as amended.	CONSENT AGREEMENT AND CONSENT ORDER Docket No. II RCRA-82-0115

Preliminary Statement

This administrative proceeding was instituted pursuant to Section 3008 of the Solid Waste Disposal Act, as amended, 42 U.S.C. §6901 et seq. ("the Act"). [Note: Among the statutes amending the Act is the Resource Conservation and Recovery Act, 90 Stat. 2795, P.L. 94-580 (1976).]

The Director of the Enforcement Division of the U.S. Environmental Protection Agency ("EPA"), Region II, Complainant in this proceeding, issued a Complaint, Compliance Order, and Notice of Opportunity for Hearing to Respondent, Bayonne Barrel & Drum Company, on May 21, 1982. Said document charged Respondent with certain violations of Sections 3004 and 3005 of the Act, 42 U.S.C. §§6924 and 6925, respectively, and the regulations promulgated thereunder.

1. Respondent owns and operates a steel container reconditioning plant located at 150 Raymond Boulevard, Newark, New Jersey 07105 ("the plant").

ATTACHMENT 4-1

2. Respondent informed EPA, pursuant to Section 3010 of the Act, that it conducts activities at the plant involving "hazardous waste," as that term is defined in Section 1004(5) of the Act, 42 U.S.C. §6904(5) and in 40 CFR §261.3. Respondent did not submit Part A of a hazardous waste permit application pursuant to 40 CFR §122.22.

3. On January 27, 1982 and March 3, 1982, inspections of the plant were conducted by a duly designated representative of EPA pursuant to Section 3007 of the Act, 42 U.S.C. §6927. Said inspections were conducted for the purpose of enforcing the EPA regulations for hazardous waste management, 40 CFR Parts 260 through 265 (published in 45 Fed. Reg. 33073 et seq., May 19, 1980, and as later amended), promulated pursuant to Subtitle C of the Act, 42 U.S.C. §6921 et seq.

4. The Complainant contends and the Respondent denies that the above-referenced inspections revealed that Respondent's facility was being used for the generation, storage, and disposal of hazardous waste.

5. Section 3005(a) of the Act, 42 U.S.C. §6925(a) and 40 CFR §262.34(a), prohibits the storage of hazardous waste without a hazardous waste permit. At the time of the above-referenced January 27, 1982 and March 3, 1982 inspections, Complainant contends and Respondent denies that Respondent was disposing of hazardous sludge and ash on the ground without having received a hazardous waste permit. Respondent was, therefore, in violation of Section 3005(a) of the Act.

6. Section 3005(a) of the Act, 42 U.S.C. §6925(a) prohibits the storage of hazardous waste without a hazardous waste permit. At the time of the above-referenced January 27, 1982 and March 3, 1982 inspections, Respondent was storing

ATTACHMENT Q-2

ash in a pile without having received a hazardous waste permit even though analysis by Respondent's licensed hazardous waste hauler had determined the ash to be hazardous. (Respondent contends that the storage of ash in a pile was temporary and was caused by Respondent's severe financial condition at the time.) Respondent was, therefore, in violation of Section 3005(a) of the Act. At the time of the March 3, 1982 inspection, Respondent was given two weeks to dispose of its hazardous sludge piles at an approved RCRA facility. On March 15, 1982 Respondent asked for an extension until March 29, 1982 to remove its hazardous waste sludge piles. As of March 31, 1982 hazardous waste sludge piles continued to be stored at Respondent's facility.

7. 40 CFR 265 sets standards for all hazardous waste treatment, storage, and disposal facilities. These standards apply until a final administrative disposition on a permit application has been made with respect to TSD facilities. No such final disposition has been made with respect to Respondent's facility. Respondent contends that it is a generator and that the standards of Part 265 do not apply to its plant. Respondent does admit that it temporarily stored ash in a pile at its plant for over ninety (90) days and contends that this was due to a lack of funds for removal and disposal.

8. 40 CFR §265.31 requires that the owner or operator of a hazardous waste treatment, storage, or disposal facility must maintain and operate that facility to minimize the possibility of a fire, explosion, or release of hazardous waste to the air, soil, or surface water. At the time of the above-referenced January 27, 1982 inspection, the Complainant contends that the duly-designated EPA representative observed a stream of hazardous waste originating from an overflowing

5,000 gallon settling tank. This hazardous waste stream flowed across Respondent's property into a storm sewer which empties directly into the Passaic River. The Complainant contends that Respondent was, therefore, in violation of 40 CFR §265.31.

9. 40 CFR §265.251 requires that the owner or operator of a facility that treats or stores hazardous waste in a pile cover or otherwise manage the pile so that wind dispersal is controlled. During the above-referenced January 27, 1982 and March 3, 1982 inspections, Complainant alleges that Respondent had not protected from wind dispersal, by cover or other means, a pile of ash constituting hazardous waste. Said waste pile was stored at Respondent's facility for more than ninety (90) days. Complainant alleges Respondent was in violation of 40 CFR §265.251. Respondent contends such waste pile was only temporarily stored more than ninety days and that the failure to protect the pile was due to a lack of funds.

10. 40 CFR §261.3(c)(2) provides that any solid waste generated from the treatment, storage or disposal of hazardous waste, including any leachate, is a hazardous waste unless and until proven otherwise. At the time of the above-referenced inspections, leachate was observed originating from Respondent's pile of hazardous waste ash, and was therefore a hazardous waste. 40 CFR §265.253 provides that where the leachate or run-off from a pile constitutes a hazardous waste, the pile must be placed on an impermeable base, compatible with the waste, run-on must be diverted and leachate collected from precipitation and run-on by some other means. At the time of the above-referenced inspections, Respondent's

ATTACHMENT Q-4

waste pile was not adequately contained to prevent leachate from escaping. Respondent was, therefore, in violation of 40 CFR §265.253. Respondent contends that this was due to a lack of funds.

11. Respondent has informed the Complainant that on July 13, 1982 Respondent filed a Petition, pursuant to Chapter 11 of the Bankruptcy Act in U.S. Bankruptcy Court.

CONSENT AGREEMENT

Based upon the foregoing, and pursuant to Section 3008 of the Act, and Section 22.18 of the Consolidated Rules of Practices Governing the Administrative Assessment of Civil Penalties and the Revocation or Suspension of Permits, 40 CFR §22.18, it is hereby ORDERED that Respondent shall hereinafter comply with all relevant regulations at 40 CFR Parts 261 through 265. Specifically:

1. Respondent shall cease the disposal, treatment, or storage of hazardous waste at its facility unless and until Respondent complies with all applicable requirements for treatment, storage, or disposal of hazardous waste.

2. Respondent shall, by no later than thirty (30) days after the effective date of this Agreement, cease to store hazardous waste in piles and hazardous waste sludge in tanks at the facility.

3. Respondent shall immediately comply with the provisions of 40 CFR 262.34 governing the temporary accumulation of hazardous waste.

4. Respondent shall immediately cease disposal of hazardous waste from ruptured pipes, settling tanks, or holding tanks in any unauthorized manner.

ATTACHMENT Q-5

5. Respondent shall immediately take all necessary steps to minimize the possibility of fire, explosion, or release of hazardous waste or hazardous waste constituents into the environment.

6. Within forty-five (45) days of the effective date of this Consent Agreement, Respondent shall submit to EPA representatives a proposed program to accomplish the following:

(a) soil sampling in incoming drum storage area

(b) soil sampling in the loading dock area

(c) aqueous sampling (and any other sampling if required) from any floor drains or holes in the floor of the drum reconditioning and painting building.

Within thirty (30) days of receiving EPA's approval or modifications of the proposed program, Respondent shall perform the sampling required by EPA and shall submit a report with the sampling results to EPA.

7. Respondent shall, by no later than sixty (60) days after the effective date of this Agreement, have taken the following steps:

(a) Under Ground Settling Tank and Above Ground Storage Tank

(i) Respondent shall remove all liquids and all sludge from the above-ground and below-ground settling and storage tanks. Respondent shall demonstrate to an EPA representative that any tank to be used in the future does not leak and is not damaged or corroded. Thereafter, Respondent shall adopt a reliable and ongoing system that will allow EPA representatives to verify that no liquid or sludge will be stored in the future in a storage or settling tank for ninety (90) days or longer.

ATTACHMENT Q-6

(ii) Respondent shall install a manhole cover and warning device to insure that no liquid or sludge overflows the underground settling tank. The Respondent shall install a device to insure that the underground tank is properly vented.

(iii) Respondent shall remove contaminated soil surrounding all the storage and settling tanks and dispose of the waste in accordance with all applicable RCRA regulations.

(b) Oil/Water Separator and Pipe System

(i) Respondent shall remove soil and stone contaminated with hazardous waste from the area near the oil/water separator and dispose of that soil and stone in accordance with all applicable regulations. Respondent shall clean out the separator and insure that it does not overflow in the future by operating pumps, capping the trench, or taking other steps.

(ii) Respondent shall cease disposal of hazardous waste from ruptured pipes and insure that the pipe system is leak-proof.

(c) Waste Piles

Respondent shall remove from the facility hazardous waste piles and soil contaminated thereby (including run-off residue) and dispose of both in accordance with all applicable RCRA regulations. (A representative of EPA shall be present when soil is removed or excavated from the location in which the piles are or were located.)

(d) Incinerator Area

(i) Respondent shall immediately cease to dispose of hazardous waste incinerator ash on the ground at the facility.

(ii) Respondent shall remove hazardous waste and soil contaminated thereby from the area surrounding its incinerator (including the alleyway behind the incinerator) and dispose of the waste in accordance with all applicable RCRA regulations. Such removal shall occur prior to the installation of any cement or crushed stone pad or floor near the incinerator. Installation of a new type of floor or pad shall only occur after approval of the removal by an EPA representative.

(iii) Respondent shall remove contaminated soil surrounding the loading area of the conveyor belt entering the incinerator and dispose of the waste in accordance with all applicable RCRA regulations.

(iv) Respondent shall insure that the two underground tanks next to the incinerators do not overflow and shall demonstrate to an EPA representative that any tank to be used in the future does not leak and is not damaged or corroded.

8. Within ninety (90) days of the effective date of this Consent Agreement, Respondent shall submit to EPA Region II a detailed report of the activities which took place at the facility to comply with this Order.

9. Within one hundred and twenty (120) days of the effective date of this Consent Agreement, Respondent shall submit the results of post clean-up soil samples taken from each of the four areas designated in number 7(a) through (d)

of this Compliance Order to confirm removal of all contaminated soils at the site. These samples shall be collected in the presence of a representative of the EPA.

10. Within forty (40) days of the effective date of this Consent Agreement, Respondent shall submit to EPA representatives a proposed program for monitoring the groundwater at the facility sufficient to determine whether contamination of the groundwater has occurred and the extent and direction of movement of any contaminated plume. Within ninety (90) days of approval or modification by EPA representatives of the proposed program, Respondent shall implement the program required by EPA.

11. Respondent shall comply with the following requirements if it no longer wishes to own or operate a hazardous waste management facility:

Respondent shall, within ninety (90) days of the effective date of this Consent Order, submit to EPA a closure plan for Respondent's facility. The closure plan shall satisfy the requirements of 40 CFR §265.112(a) and 40 CFR 265.197 and 40 CFR 265.351. Within sixty days of the approval or modification by EPA of the proposed closure plan, Respondent shall comply with the approved or modified closure plan and shall implement that plan according to the schedule in the approved or modified plan. Respondent shall comply with other applicable requirements concerning closure set forth at 40 CFR Part 265, Subpart G or in equivalent New Jersey regulations.

ATTACHMENT 2-9

b. Respondent shall, within one hundred and eighty (180) days of the effective date of this Consent Order, submit to EPA a post-closure plan for Respondent's facility. The post-closure plan shall satisfy the requirements of 40 CFR 265.117, 265.118 and 265.310. Within sixty (60) days of approval or modification by EPA of the proposed post-closure plan, Respondent shall comply with the approved or modified post-closure plan and shall implement that plan according to the schedule in the approved or modified plan.

12. Within forty (40) days of the effective date of this Consent Agreement, Respondent shall obtain or arrange for a bond or other financial assurance mechanism in the amount of at least $150,000.00 guaranteeing Respondent's performance of the steps described in this Consent Agreement. The arrangements and details concerning the selection and implementation of this financial assurance mechanism must be reviewed and approved in advance by EPA.

The provisions of this Consent Agreement shall apply to and be binding upon the parties to this action, affiliated companies, successors, and assigns.

This Consent Agreement is being entered into by the parties in full settlement of all liabilities which might have attached as a result of the proceedings. Respondent admits the jurisdictional allegations of the Complaint. Furthermore, Respondent has read the Agreement and neither admits nor denies specific factual allegations contained in the complaint. Respondent explicitly waives its right to request a hearing on the Complaint, this Agreement, or the attached

Consent Order. Respondent also waives its rights to contest the issuance or terms of this Order in any action to enforce its provisions.

BAYONNE BARREL & DRUM COMPANY

RESPONDENT: BY: _____

DATE: 5/7/84

This document has been reviewed by the undersigned as counsel only for the Debtor in Possession.

SCHWARTZ, TOBIA & STANZIALE

BY: _____
CHARLES A. STANZIALE, JR.

ATTACHMENT Q-11

COMPLAINANT:

DOUGLAS R. BLAZEY
Regional Counsel
Office of Regional Counsel
EPA-Region II

DATE: August 28, 1984

The Regional Administrator of EPA, Region II concurs in the foregoing Consent Agreement. The Agreement entered into by the parties is hereby approved and issued, as an Order, effective immediately.

RICHARD T. DEWLING
Acting Regional Administrator
U.S. Environmental Protection
Agency - Region II
26 Federal Plaza
New York, New York 10278

DATE: 9/3/84

ATTACHMENT 9-12

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO Vince Krisak

FROM Fred Sickels DATE August 15, 1984

SUBJECT Bayonne Barrel and Drum
150 Raymond Boulevard
Newark

0915 - I arrive on site and meet Dave Rogers - EPA, Chris Marlowe - Weston-Sper, Craig Moylan - Weston-Sper, and Frank Langella - owner. (Note: Weston-Sper is a consultant for EPA). Mr. Rogers informs Mr. Langella of the purpose of this visit which is to tour the property and ascertain the current status of regulatory compliance. The following problem areas were observed by this writer:

1) Incinerator Area: Sludge material on ground. Also an ash-like material was observed in and around the incinerator.

2) Drum Conveyor: Inside one of the onsite buildings was observed a large conveyor system with approximately 4-5" of sludge underneath.

3) Drum Storage Area: Toward rear of property approximately 30,000 drums are stacked. Occasional soil contamination was observed. A random survey revealed that approximately 60% contained some amount of material.

4) Sludge Pile: Toward the rear of the property is located a sludge pile approximately 110' x 50' x 4-5' in size. The pile is not covered, and puddles are forming in the interior. No odors were present.

5) Aboveground Tank Area: Tanks which were to be used in waste water treatment system are still on site. Oil stains are evident on the ground in this area.

The buildings on site are generally empty and debris free. Mr. Rogers stated that he would press his people to enforce the various on site RCRA violations. Apparently no cleanup work has been done since the consent order was developed.

EPA personnel and I return to meet with Mr. Langella. Mr. Langella stated that the tank (First National State Bank) now is in control over most of the site and he owns only a portion of the property. He has not continued cleaning up the site because costs became too high. I asked him why the waste pile was not covered and he stated that the pile was being removed. I asked him to cover the pile with plastic in the interim.

ATTACHMENT R-1

& Dr
984

USIONS & RECOMMENDATIONS:

No cleanup work has been done on this site for sometime. In my opinion the first concern is the uncovered waste pile. This material should be removed from site and disposed of properly. The soil under this waste pile should also be tested and removed if analyses indicate that is necessary. The next area of concern is the oil/water separator site. Soil contamination is evident on the surface and it is not known how far down this contamination extends. The drum storage area must also be tested for contamination from a variety of materials. Should this facility ever become operational again, the ground in the drum storage area should be covered with an impermeable material which can retain any spilled material. Also, all sludge in the incinerator area and inside buildings should be removed after testing. The soil in the area of the incinerator should also be tested and removed if necessary. Finally, all underground tanks should either be removed or filled with sand if they are not going to be used.

Mr. Rogers also was inspecting this site as a possible CERCLA site for future cleanup. I recommend that prior to this Department taking any enforcement action, we await the decision of the EPA as to their strategy.

August 14, 1984

1045 - I contact Dave Rogers of the EPA. Mr. Rogers states that on August 21 and 22, 1984, Wilkie Sawyer will petition the bankruptcy court for funds to initiate a cleanup in the following areas: Underground/aboveground tanks, oil/water separator and surrounding areas; waste pile, incinerator area, and any other areas with RCRA violations. Presently, an order is being drawn up and will be presented to the court on the aforementioned date.

1050 - I call Wilkie Sawyer - EPA counsel - and he is not presently available.

1135 - Wilkie Sawyer returns call and indicated that a court hearing is scheduled for next Monday or Tuesday (Aug. 20, 21). He stated that the court date may be pushed back at the request of the company's lawyer. Mr. Sawyer stated that previously the company has not complied with a RCRA type order and that is the reason for the present court date. He is presently drafting a Superfund type order. He will send me this order and allow me to comment on it. He suggested that DWM hold off on any enforcement action until after the court date. I stated that I would like to be kept abreast of any developments.

1145 - I call Tom Downey and inform him of my conversation with Mr. Sawyer. Mr. Downey will foward a memo to Ron Corcory outlining his position on the subject case. He also understood my position to hold off on any enforcement action until after the EPA has taken their shot. Tom expects to participate in the court proceedings.

FOC4:dg

ATTACHMENT R-2

HAZARDOUS WASTE INVESTIGATION HW/EF 07-58

Inspector: Tom Downey Date: 5/17/82

Location: Bayonne Barrel and Drum Co.

St: 154 Raymond Boulevard Property owner:

Town: Newark

County: Essex

Lot: 3 Block: 5002

Origin of Complaint:

Complaint: Investigate waste pile on site and follow-up of 1/27/82 investigation

Findings:

On 3/3/82 at about 1400 hrs., DEP employee Jeff Kane and myself arrived on site at Bayonne Barrel and Drum to investigate a possible waste pile on site. We toured the site accompanied by plant manager Alex Purvis.

Tour of site

The area around the 5000 gallon below ground settling basin was inspected. Broken line leading into this tank, noted in 1/27/82 investigation had been repaired. All pumps (for below gound tank to 60,000 gal. holding tank) appeared to be operating properly. Some soil in this area, adjacent to pump house appeared contaminated. This was brought to plant manager's attention.

We next inspected the area adjacent to the incinerator. Housekeeping in this area was very poor. It appeared that incinerator ash mixed with cooling water had overflowed the subsurface holding tanks which are on each side of incinerator. Extensive soil contamination, 30' x 65' and 30' x 40', was noted in this area.

We then proceeded into the southern section of the plant where the empty drums were stored. In the southwest section of the plant, a pile of sludge-like waste was noted (about 2' x 35' x 40'). According to Mr. Purvis, this was incinerator ash which had been accumulating for the last two weeks. An irregular x 150' patch of leachate or runoff residue was noted leading down grade from pile.

From here, we went to the incoming drum off loading area where I opened a few empty drums. In this area, I found three partly full drums (1/2 - 3/4 full) of what appeared to be gray paint. A few others appeared to contain water.

Meeting with Langello

We then went inside where I discussed our findings with the owner, Frank Langello. We first discussed the waste pile. Mr. Langello explained that material was incinerator ash which had been, up until two weeks ago, disposed of by S & W of Kearny. However, since Langello owed S & W $15,000.00, they refused to haul anymore off site until they were paid. Mr. Langello (who had claimed financial troubles last inspection) claimed that he did not have the money to pay S & W at the time. After some discussion, it was suggested that Langello try and ship waste direct to disposal site (GROWS in PA) and eliminate middleman. This was taken into consideration. We discussed a time schedule for removal of waste pile and it was decided that pile would be covered with plastic and be removed

ATTACHMENT S-1

within two weeks. There was no plastic liner under pile.

In regard to the part filled drums of paint, Langello claimed that it was drainings from other empty drums shipped in. We also discussed housekeeping around the incinerator and the various areas of contaminated soil. Langello explained that he was in the process of selling business and that new owners had intentions of changing process for incinerator which should eliminate the mess. He claimed he would clean area and contaminated soil. Before leaving, I informed Mr. Langello that I would return in two weeks to check on his progress on removing waste pile. We left site at about 1700 hours.

Samples and photos

Samples taken:

TD074 - composite of sludge (waste) pile
TD075 - composite of residue from leachate runoff
TD076 - paint drum
TD077 - paint drum

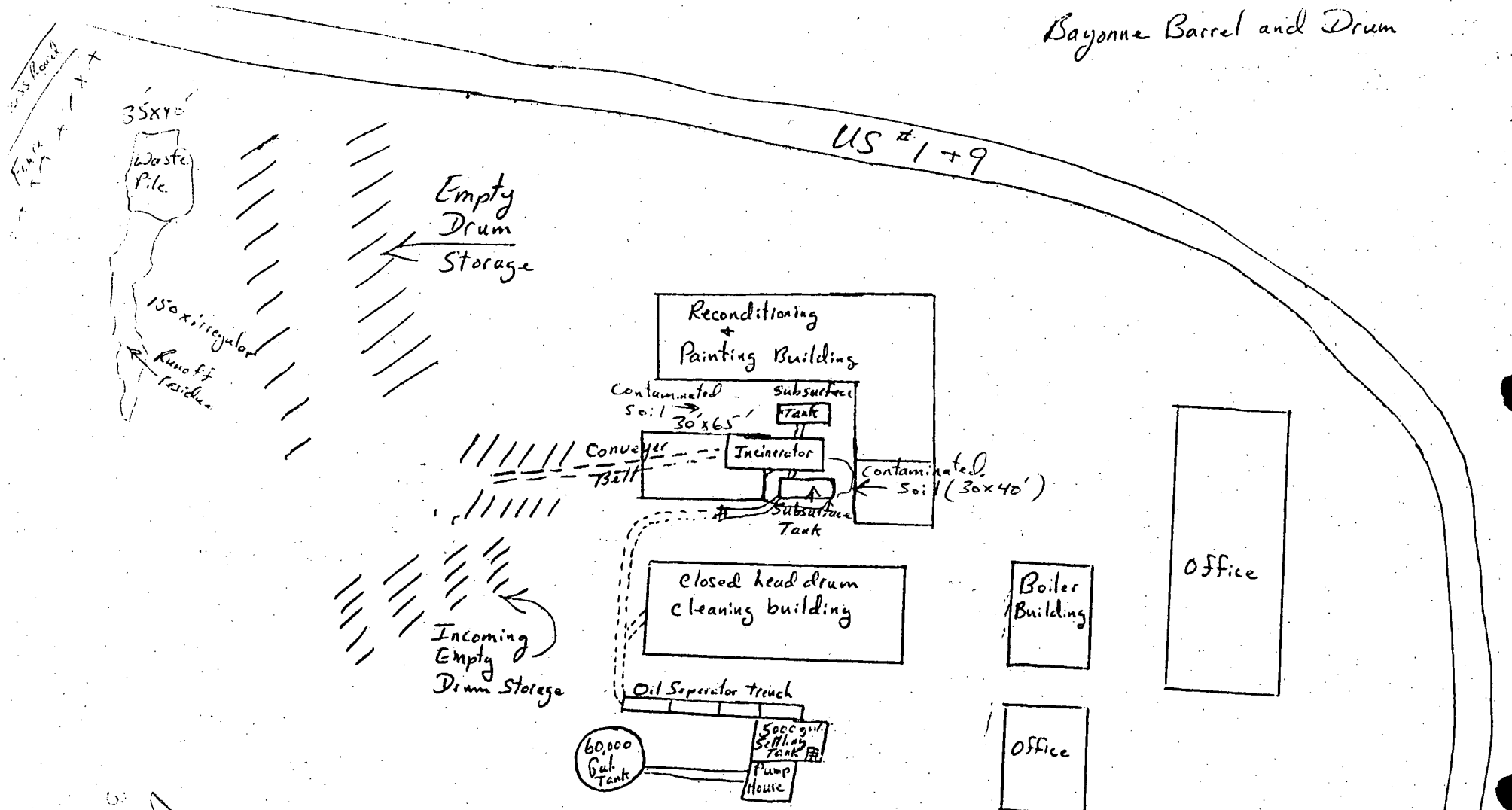
22 photographs taken.

cc: Jodi Alper, EPA
Tony Catanese, DHM
Chris Schiller, DWR

Thomas W. Downey

ATTACHMENT S-2

Bayonne Barrel and Drum



ATTACHMENT S-3

HAZARDOUS WASTE INVESTIGATION HW/EF 07-58

Inspector: Tom Downey Date: 2/22/82

Location: Bayonne Barrel and Drum Co.

St: 154 Raymond Boulevard

Town: Newark

County: Essex

Lot: 3 Block:5002

Origin of Complaint:

Complaint: Investigate housekeeping, disposal practices and possible illegal incinerator.

Findings:

On 12/2/81, at 1200 hours, I met on-site with Lenny Cerasia, plant foreman for Bayonne Barrel and Drum. I had intended to conduct a RCRA compliance inspection in addition to the investigation, however, George Shaneen, the company official in charge of environmental affairs, was not in.

As we toured the twenty acre site, Mr. Cerasia explained that Bayonne Barrel takes in dirty and damaged drums and cleans and reconditions them. Closed head drums are cleaned using chains and a caustic solution. The spent solution drains into a 5,000 gallon holding/settling tank and is then pumped into a 60,000 gallong holding/settling tank. The liquid is decanted to the sewer under permit by the Passaic Valley Sewage Commission (PVSC). Open head drums are placed on a conveyor belt and moved through an incinerator which burns the residue out of the inside. This residue falls to the ground where it is collected in two subsurface holding/settling tanks. Residue mixes with conveyor belt cooling water. Cooling water drains down through residue and ties into the same settling tank system mentioned above. Accumulated residue or incinerator ash is then shoveled out and placed in a dump trailer. This material is then manifested out for disposal at S & W in Kearny.

I examined manifests and found that 44 of the last 48 shipments went to S & W with the remaining four going to Grows. Bayonne generates about 40,000 lbs of incinerator ash and sludge a month. This amount includes the sludge that settles out in the four referenced tanks. Proper shipping names on manifest were not descriptive enough and it could not be determined which material came from which tank. S & W fills out and supplies manifests for Bayonne. In a conversation a few weeks later with Brad Gradner, Envl. Coordinator for S & W, it was explained that manifests in the future would be more descriptive.

Further investigation outside was done in the drum unloading area. This area was the site of a few minor spills. I checked a few drums to make sure they were empty. Mr. Cerasia explained that employees are instructed not to accept any drums which have more than one inch of residue in them. A drum crusher in this area revealed what appeared to be sludge and residue accumulation underneath.

I concluded my investigation by touring the entire twenty areas of the site. The remaining section of the site was used for empty drum storage. I did not see

ATTACHMENT 5-4

any evidence of land disruption which might indicate some thpe of disposal on-site.

1/27/82 Investigation

At 10:30 hrs., I returned to Bayonne Barrel and Drum to condut a RCRA compliance inspection. I was accompaned by EPA attorney Jodi Alper. During the inspection it was noted that the 5,000 gallon tank was overflowing to a storm sewer. According to George Shaneen, company representative, pumps and lines from 5,000 gallon tank to 60,000 gallon holding tank were frozen, thus liquid was backing up in settling tank Besides overflow from the settling tank there were two breaks in the line leading into the settling tank (see map). Liquid from these breaks was flowing across pavement and into storm sewer. There was no means to stop flow into the 5,000 gallon tank with the exception of halting production. (Only the incinerator operation was working.) Samples TD063 from the 5,000 tank, TD064, from break in line nearest the 5,000 gallon tank, TD065, break in line near boiler building and TD066 from flow of liquid entering storm sere, were taken. Phots 1-8 taken of flow and source.

We then met with the owner, Frank Langello and discussed the situation. Mr. Langello was not all that cooperative. He had no intention of stopping production to halt flow. He stated that flow would cease when production stopped at 1730 hours. He did instruct an employee to start charcoal fires in buckets in pump house and under frozen lines and to keep them burning all night. He was not sure if sewer in question led to PVSC or river. (I contacted Tom Mack of PVCS but he could not tell either.) Mr. Langello said that he would attempt to free pumps and lines early the next day but he still intended to operate production whether lines were free or not. Mr. Langello said that discharge had been going on for the past 2-3 days, however, an unidentified employee stated that discharge had been going on for two weeks. Discharge to sewer was estimated at 5-10 gallons per minute.

At 1530 hours, I notified the Division of Hazardou Management (DHM) and spoke with Tony Catanese and again at 1700 hours and spoke with Joe Goliszewski. It was agreed that I would stay on-site and monitor flow until it decreased. DHM would then send someone to the site first thing Thursday morning, 1/28/82. Jody Alper suggested that the EPA Emergency Response unit be notified, however, I assured her that the DEP could handle it.

At 1945 hours I noted that flow had decreased to about 2-4 gallons per minute. No flow was noted from settling tank or break nearest tank. Flow from break near boiler building now appeared to be clearer than before. At 2000 hours, I left the site.

The next morning at 0900 hours, I contacted Joe Goliszwski. Mr. Goliszwski told me that Chris Schiller of Division of Water Resources (DWR) had been notified the previous evening and that they would respond this morning. I then contacted Mr. Schiller's office and left a message for him to contact me. One hour later, I called again and spoke with Mr. Schiller who informed me that his office was not responding since DHM was handling the case. I explained that they were not handling the case and he told me he would look into this mix up. A short time later, I received a call from Jodi Alper who informed me that she had spoke with Mr. Schiller and DWR would respond. I understand that they had someone on-site about 1330 hours that day. Had I known the previous evening that no one from the DEP was going to respond until the next afternoon I would have gone back up myself the following morning.

In a conversation earlier that day with Newark City Engineer Robert Bienz, I was told that the storm sewer in question flows from Bayonne Barrel and Drum property under the NJ Turnpike and into Harrison Creek which inturn flows into the Passaic River.

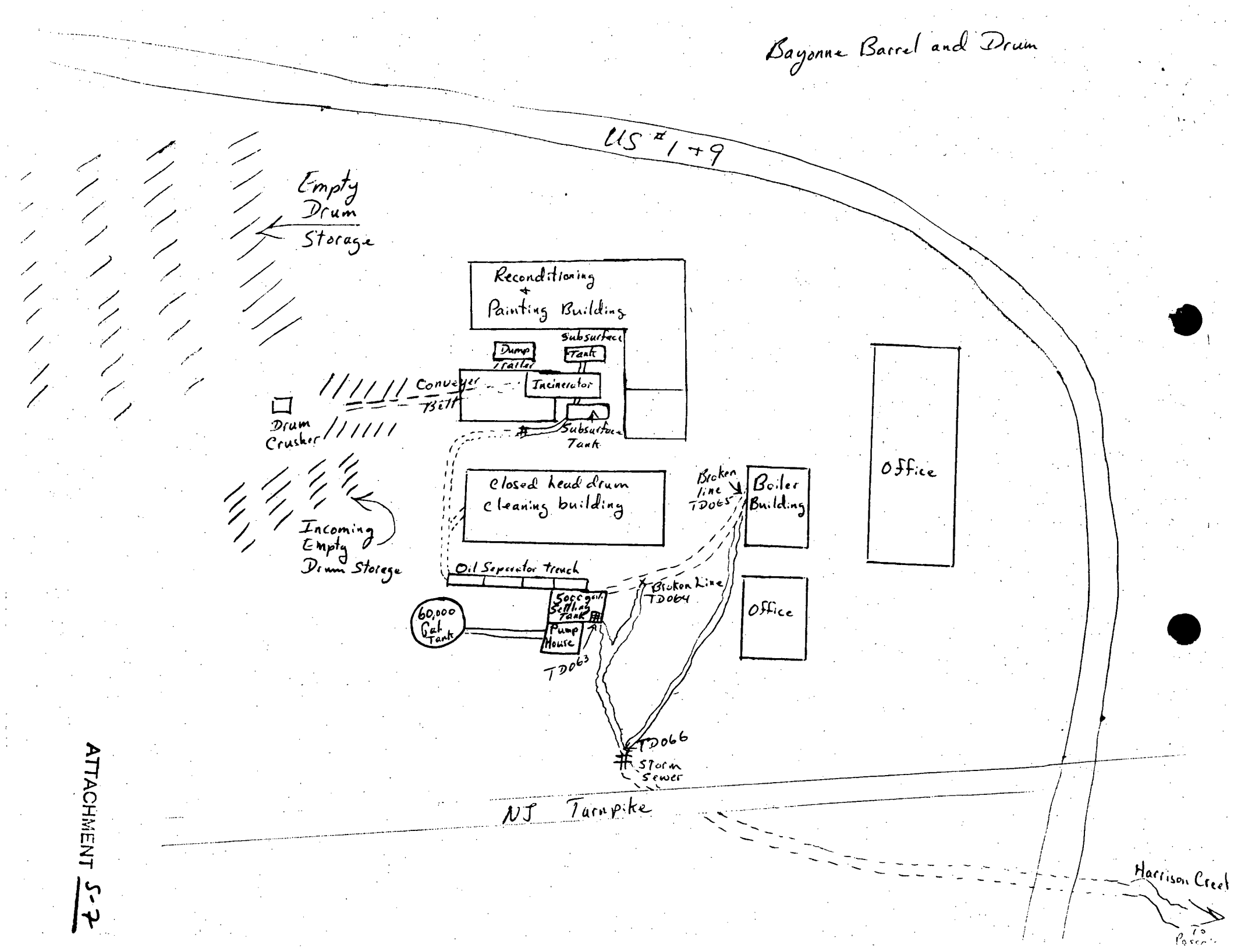
ATTACHMENT S-5

Housekeeping on-site was generally poor, especially around the incinerator area, drum crusher and settling tanks. Most of the site was covered with snow during my second inspection but I did notice a few areas of what appeared to be soil contamination.

cc: Jody Alper, EPA
Tony Catanese, DHM
Chris Schiller, DWR

Thomas L. Dr[illegible]

ATTACHMENT S-6



ATTACHMENT S-7

HW/EF 07-58

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Bayonne Barrel and Drum file thru Steve Carfora SC

FROM Tom Downey DATE March 15, 1982

SUBJECT Comments regarding investigations on December 2, 1981 and January 27, 1982.

Housekeeping on-site was generally poor, especially, around the incinerator area, drum crusher and holding/settling tanks. Most of the site was covered with snow during my second inspection but I did notice a few areas of what appeared to be soil contamination. Of greater concern is the possibility that this company is accepting drums which contain more than one inch of residue. I would think that 40,000 lbs. of incinerator ash a month is more than what one might except to be generated just from drum cleaning operations.

Soil samples should be taken of the sediment in the stream bed where storm sewer emptied out, if this has not already been done.

For these reasons, I feel that a follow up investigation is in order. Enforcement activities should be coordinated between DWR, DHM, EPA and the Bureau of Hazardous Waste. (BHW). No enforcement action will be taken by BHW until results of sampling are back.

Thomas W. Downey

ATTACHMENT 5-8

RCRA GENERATOR INSPECTION FORM

COMPANY NAME:
Bayonne Barrel and Drum

EPA I.D. NUMBER:
NJD009871401

COMPANY ADDRESS:
150 Raymond Blvd. Newark

COMPANY CONTACT OR OFFICIAL:
George Shaheen

INSPECTOR'S NAME:
Tom Downey

TITLE:
Sales Representative

BRANCH/ORGANIZATION:
NJDEP

CHECK IF FACILITY IS ALSO A TSD FACILITY ☒

DATE OF INSPECTION:
1/27/82

	YES	NO	DON'T KNOW
(1) Is there reason to believe that the facility has hazardous waste on site?	X		

a. If yes, what leads you to believe it is hazardous waste? Check appropriate box:

☒ Company admits that its waste is hazardous during the inspection.

☒ Company admitted the waste is hazardous in its RCRA notification and/or Part A Permit Application.

☒ The waste material is listed in the regulations as a hazardous waste from a nonspecific source (§261.31)

☐ The waste material is listed in the regulations as a hazardous waste from a specific source (§261.32)

☐ The material or product is listed in the regulations as a discarded commercial chemical product (§261.33)

☐ EPA testing has shown characteristics of ignitability, corrosivity, reactivity or extraction procedure toxicity, or has revealed hazardous constituents (please attach analysis report)

☐ Company is unsure but there is reason to believe that waste materials are hazardous. (Explain)

ATTACHMENT I-1

	YES	NO	K
b. Is there reason to believe that there are hazardous wastes on-site which the company claims are merely products or raw materials?	—	X	—

Please explain:

c. Identity the hazardous wastes that are on-site, and estimate-approximate quantities of each.

Incinerator ash 30-40 cubic yards
Wastewater sludge 5-10 cubic yards

d. Describe the activities that result in the generation of hazardous waste. Incineration of residues from empty drums. Settling of liquid which result from drum cleaning operations.

(2) Is hazardous waste stored on site?	X	—	—
a. What is the longest period that it has been accumulated? 1 year			
b. Is the date when drums were placed in storage marked on each drum?	NA	—	—
(3) Has hazardous waste been shipped from this facility since November 19, 1980?	X	—	—

a. If "yes," approximately how many shipments were made?

(4) Approximately how many hazardous waste shipments off site have been made since November 19, 1980? 74

a. Does it appear from the available information that there is a manifest copy available for each hazardous waste shipment that has been made?	X	—	—

b. If "no" or "don't know," please elaborate.

ATTACHMENT T-2

	YES	NO	DON'T KNOW
c. Does each manifest (or a representative sample) have the following information?			
- a manifest document number	X	—	—
- the generator's name, mailing address, telephone number, and EPA identification number	X	—	—
- the name, and EPA identification number of each transporter	X	—	—
- the name, address and EPA identification number of the designated facility and an alternate facility, if any:	—	X	—
- a description of the wastes (DOT)	X	—	—
- the total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle	X	—	—
- a certification that the materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation under regulations of the Department of Transportation and the EPA	X	—	—
(5) Were there any hazardous wastes stored on site at the time of the inspection?	X	—	—
a. If "yes," do they appear properly packaged (if in containers) or, if in tanks, are the tanks secure?	—	X	—
b. If not properly packaged or in secure tanks, please explain. A 5000 gallon sub surface tank was noted overflowing into storm sewer, line leading to tank was broken in two places and was also leaking into storm sewer.			
c. Are containers clearly marked and labelled? N/A	—	—	—
d. Do any containers appear to be leaking?	—	—	—
e. If "yes," approximately how many?			

ATTACHMENT T-3

07-58

RCRA INSPECTION REVIEW SHEET

Name of Facility - Bayonne Barrel and Drum
RCRA ID= - NJD 009 271401
Date of Inspection - 1/27/82
Type of Inspection: Generator X Transporter TSD X
Name of EPA/State Inspector -
Tom Downey NJDEP

Findings of Inspection:

265.13 - No written waste analysis plan
265.15 - No written inspection schedule
265.16 - No personnel training plan
265.51 - No emergency contingency plan
265.110 - No written closure plan
265.142 - No written cost of closure estimate
265.190 - Settling tank overflowing into storm ~~sewer~~ sewer
265.340 } Operator was unsure if incinerator was listed or should have been listed
265.379 } in Part A application. Operator was not sure if facility regulated as a
TSDF.

Action(s) Taken:

Action(s) Recommended:

Issue notice of violation for above

ATTACHMENT T-4

1/11 Dave Sonstreet
for nec. action
TA

URGENT

Joe Rogalski

the NewJersey Department of Envionmental Protection
State Capitol
Trenton, New Jersey.

Dear sirs,

This is to inform you of a situation that is going on at a place i used to work at. I used to work in the yard at Bayonne Drum Co in Newark, NewJersey. They afe picking up drums that have to much hazardus waste in it. They get these drums from a company in Broklyn called Techtronics. The drivers are told they have to pick up any drum that the customer gives them, and they count only the drums that have more than 6 inchs in them. sometimes the drivers get a tip from techtronics and they dont even count the drums that have the 6 inchs in it. Then in the yard, the wastes are put together for a guy named larry who owns a company called L and J drum Company in Karney. He gets rid of the waste at night. I never seen the waste still there the next morning.

I am telling this because I am afriad that the waste is going to poison the water my children will be drinking in the future and not because I dont work there any more.

Anonymous

ATTACHMENT U-1

DEQ-047

APC STACK LOG

BAYONNE BARREL & DRUM CO.

154 RAYMOND BLVD.

PLANT I.D. 05103

NEWARK, N.J. 07105

EMERGENCIES AND SPECIAL PROJECTS
SECTION BUREAU OF AIR POLLUTION CONTROL

STACK NO.	CERTIFICATE NO.	DESCRIPTION OF EQUIPMENT	DATE LOGGED
1	8331	WHEELABRATOR HORIZONTAL DRUM CLEANING	
2	8332	WHEELABRATOR HORIZONTAL DRUM CLEANING	
3		8000 GALLON DIESEL FUEL TANK	
4		8000 GALLON GASOLINE TANK	
5	11006	PAINT SPRAY BOOTH & BAKE OVEN	
6	G/F	Ring dip tank w/ oven	12-2-81
7	"	Drum cover lining spray booths	
8	"	#2 exterior spray paint booth	
9	"	Drum Incinerator	7-2-82
10	"	Bung Cleaning Dept Baghouse	
11	"	Lid Cleaning Dept Baghouse	
12	"	Lid Cleaning Dept Baghouse	

APEDS USE ONLY

ATTACHMENT V-1

COMPANY NAME BAYONNE BARREL & DRUM PLANT I.D.# 05103

LEGAL ACTION LOG

A DATE	B SUBCHAPTER SECTION PARAGRAPH	C ACTION TAKEN	D LOG #	E PENALTY DATE PAID	F COMPLIANCE DATE
9/9/77	11.3(B)	ORDER	13575		9/24/77
6/12/78	11.3(B)	NOP	15208	$100.00 6/28/78	6/27/78
8/4/78	11.3(B)	NOP	15303	$200.00 6/12/79	8/19/78
〃	11.3(B)	NOP	15304	$400.00 6/12/79	〃
7/25/80	8.3(c)	ORDER	17178		8/9/80
7/14/80	2.2	ORDER	17146		7/29/80
11/11/82	16.8(A)	ORDER	19947		12/11/82
5/24/83	16.5(g)	ORDER	20742		

ATTACHMENT V-2

Violation at Bayonne Barrel and
mpany, Newark, New Jersey

rris Trichon
tmospheric Chemist
Air Facilities Branch

Jehuda H. Menczel, Ph.D, Chief
New Jersey/Puerto Rico Section
Air Facilities Branch

Purpose, Place, Date

On May 10, 1978 from 2:10 PM to 2:40 PM this writer observed and recorded opacity violations from the drum reclamation incinerator at Bayonne Barrel and Drum Company, 154 Raymond Blvd., Newark, N.J. (BBD).

Attendees

Frank A. Langella - President - BBD
Morris Trichon - EPA
Laurence Bernson - EPA

Conclusions

Steel Barrels containing flammable waste which was not removed prior to passing through the incinerator were responsible for the opacity violation. According to the president, Mr. Langella, this occurs with approximately 10% of the drums that are sent through the incinerator.

Discussion

I cited this facility for a similar violation on July 14, 1976. The State of New Jersey again cited the incinerator for a violation on August 15, 1977. After talking with Mr. Langella he commented that this is a common problem with the barrel reclamation operation. The crux of the problem is that the workers do not look in the drums and just send them into the incinerator regardless of the drums' contents. These drums are sent in open side down so that this waste material pours down into the incinerator and keeps burning after the drum has left the combustion area. In the case of waste material lids are to be applied to the drums with the open side up and the waste poured out after the incinerator.

The incinerator is used to char the barrels so that they may be shot blasted and repainted.

This violation is subject to N.J.A.C. 7:27 -11.3(b)

ATTACHMENT W-1

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF REGULATORY SERVICES
CN 402
TRENTON, N.J. 08625
609 - 292 - 2906

OCT 1 1 1988

REG. SERVICES DIRECTOR

Sep 29 2 49 PM '88

GERARD BURKE
DIRECTOR

NANCY B. STILES
DEPUTY DIRECTOR

SUSAN SAVOCA
ASSISTANT DIRECTOR

GEORGE F. SCHLOSSE
ASSISTANT DIRECTOR

MEMORANDUM

TO: PAULA A. BLUMENFIELD
OFFICE OF REGULATORY SERVICES

FROM: Ed Gaven / OHWM / 4EN
(NAME/DIVISION/PROJECT ACTIVITY CODE)
65 Prospect St. Trenton
(MAILING ADDRESS)

DATE: 9-28-88

SUBJECT: CORPORATE LOOKUP INFORMATION

PLEASE FILL IN THE CORPORATE NAME AND ADDRESS:

FACILITY ID #: NJD000987140 /

CORPORATE NAME: Bayonne Barrel & Drum Co.
ADDRESS: 150 Raymond Blvd.
CITY: Newark
LOT & BLOCK #: Block 5002 Lot 3

- -

OFFICE USE ONLY

CORPORATION FORMERLY KNOWN AS: _____
FICTITIOUS NAME: _____

TYPE DP
STATUS VPC
STATE INC NJ
DATE INC. 12-30-37

EFFECTIVE _____
DATE OF SUSPENSION 9-1-88
DATE SUSPENSION ENDED _____
DATE BANKRUPT _____

REGISTERED AGENT: Frank Iaggella
ADDRESS: 154 Raymond Blvd
CITY: Newark STATE: NJ-07105

MICROFILM LOCATION #: _____

NO RECORDS FOUND: _____

THIS INFORMATION IS BEING PROVIDED FOR OFFICIAL STATE USE ONLY

ATTACHMENT X-1

NEW JERSEY DEPARTMENT
OF
ENVIRONMENTAL PROTECTION

Report of Phone Call

Case Name: Bayonne Drum & Barrel Co.

Incident Notification Number:

Date: ~~4-24-84~~ 10-5-88 Referred to:

Time: 10:00 Am

Bureau or Office: File:

Person Contacted: Phone Number:

Affiliation/Address: Newark Tax Assessor 733-6566

Subject of Call: Bayonne Barrel property ownership & value info.

Summary of Call:

Block 5002 Lot 3 (contains old lots 4-10) 9.286 acres

owner { Bayonne Barrel & Drum Co.
154 Raymond Blvd.
1 story cement brick building

value: land $378,400

building $185,600

$564,000

Block 5002 Lot 14 5.489 acres

value: land $110,000

owner: Frank Langella

ACTION RECOMMENDED:

ATTACHMENT 4-1

Investigator: Ed Haven

NEW JERSEY DEPARTMENT
OF
ENVIRONMENTAL PROTECTION

Report of Phone Call

Case Name: Bayonne Barrel & Drum Co.

Incident Notification Number:

Date: 10-5-88 Referred to:

Time: 11:00 AM

Bureau or Office: File:

Person Contacted: Phone Number: 762-6000

Affiliation/Address: South Orange Tax Assessor

Subject of Call: property information for Frank Langella,

Summary of Call: owner of Bayonne Barrel & Drum

50 Crest Drive, South Orange

Block 26 Lot 317

assessment (1974): 36,400

55,700

92,100

Frank Langella

ACTION RECOMMENDED:

ATTACHMENT 4-2

Investigator: Ed Haven

Department of State Lookup

Export Barrel Co.

incorporated 12-29-37

incorporators: James L. Handford
Herbert K. Meyer
Kathyrn E. Wendell

principal office: 790 Broad St., Newark

1938 Report: directors: Douglas Cummings, President
Howard Robinson,
James L. Handford, Secretary

1942 Name change to Bayonne Barrel and Drum Co.

1944 Annual Report: Directors

A. R. Colville	Raymond Blvd. & Rt 25	Pres.
Frank Langella	"	V.P.
Daniel Paciulli	"	Treas.
James Handford	790 Broad St.	Sec.

1949 change of agent → Frank Langella
154 Raymond Blvd.

1962 Annual Report: Directors

Frank A. Langella	Pres. / Treas.
Zachary L. Langella	Exec. V.P.
Joseph A. Brunno	Sec
~~Ad~~ Andrew M. Langella	-
Ray F. Farina	V.P.

status: void 1988

ATTACHMENT 2-1

B & F Co. Inc. S 1483

incorporated 3-19-31

incorporators: Barbara N. Smith
Florence S. Dunne
Harold A. Miller

office: 763 Broad St. Newark

to improve, manage, and operate real property

status - void 1935

Colville Bros Inc

incorporated 1933

dissolved 1945

ATTACHMENT 7-2

12-11-51 Bayonne Barrel from Colville Bros. dec. Book 3003 p. 228

Tract 1 same property conveyed to Colville Bros. 9-28-33

in deed Book M 86 p. 339

Tract 2 Block 5002 Lot 4 2.5 acres

Tract 3 Block 5010 Lot 30

for $1.00, in dissolution of Colville Bros. Dec.

sole surviving Board of Directors A.R. Colville, Frank Langella,

Daniel Paciullo, and James L. Handford.

2-28-46 Bayonne Barrel from Trustees of the Episcopal Fund &

Properties of the Diocese of Newark

5.62 acres for $1.00 Book G.107 p. 135

12-29-45 Bayonne Barrel from Colville Bros. dec. Book Y 106 p. 36

same property identified in Book 3003 p. 228

in transaction 12-11-51

11-27-44 Colville Bros from Essex & Hudson Land dmp. Co. N104 p. 79

Block 5002 Lot 4 2.531 acres

Block 5010 Lot 30 c. 217 acres

for $1.00

9-28-33 Colville Bros. from Barbara M. & Henry W. Smith M 86 p. 339

for $1.00 property conveyed by B&F Co. to 9-1-31

9-1-31 Barbara N. Smith from B&F Co. dec. E 83 p. 539

for $1.00 land in Newark ↓ Florence S. Dunne, Pres.

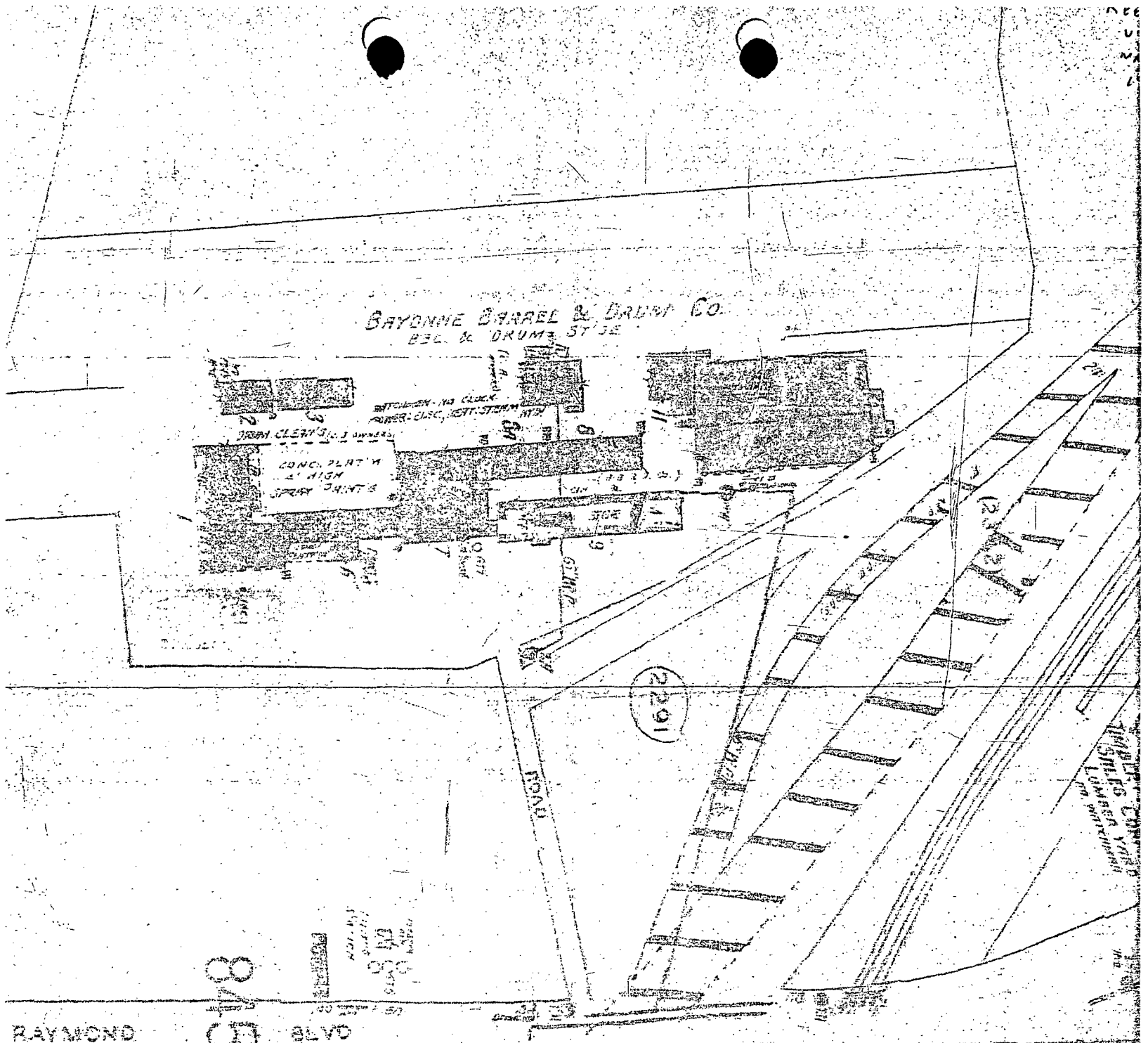
Harvey W. Smith, Sec.

3-1-31 B&F Co. from Smith & Dunne dec. f. 82 p. 321

land in Newark along Route 1

(12-10-52) Bayonne Barrel from N.J. Tpk Auth Book 3098 p. 192

ATTACHMENT AA-1



SANBORN INSURANCE MAP

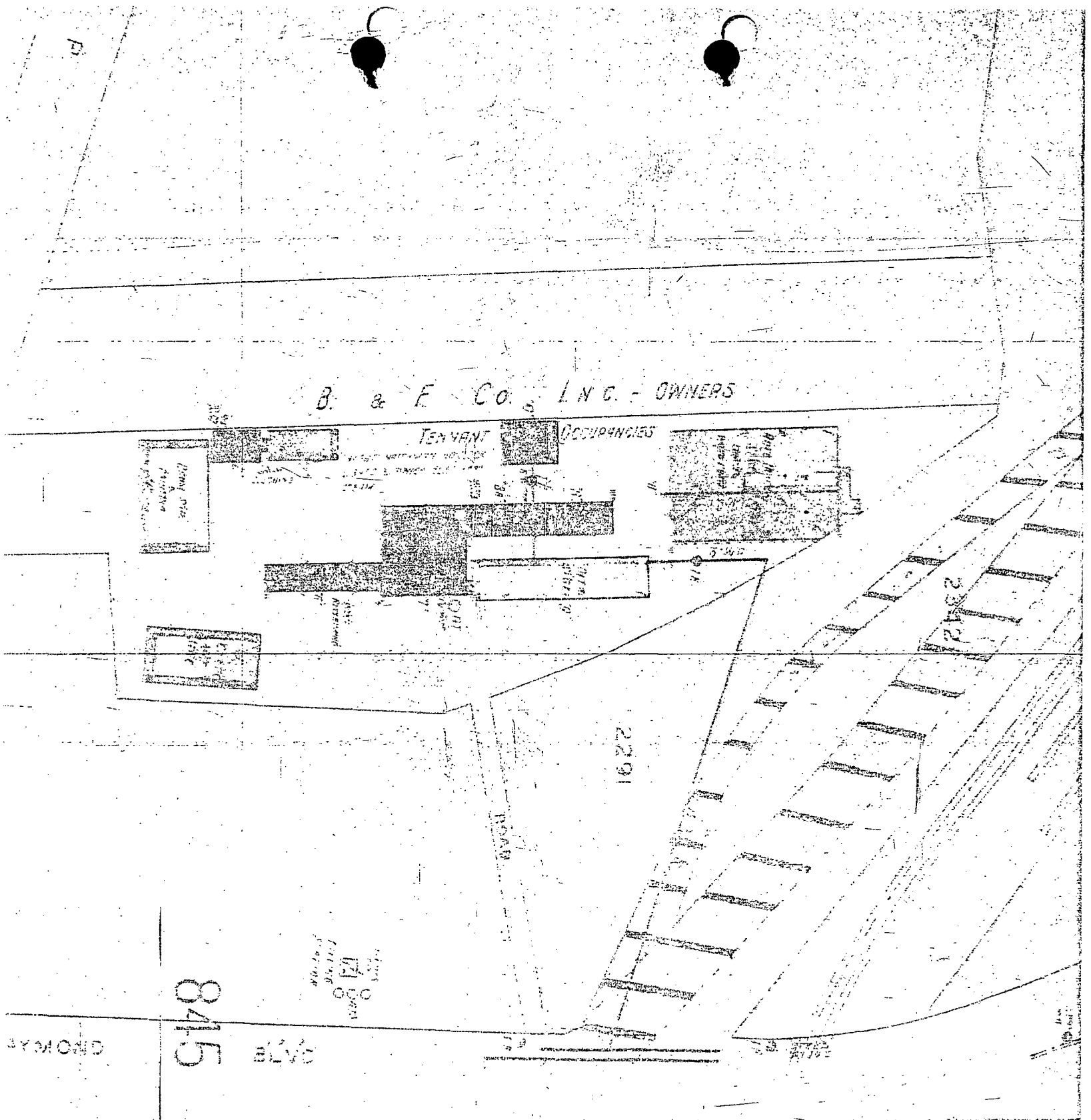
REEL 29

VOL. 8

MAP 848

1951

ATTACHMENT BB-1



Reel 28
vol 8
MAP 848
1931

ATTACHMENT BB-2

ADM-012

MEMO

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO BAYONNE BARREL AND DRUM FILE

FROM ED GAVEN, HSMS III, BUREAU OF PLANNING AND ASSESSMENT

SUBJECT WINDSHIELD SURVEY

On September 28, 1988, I conducted a windshield survey of the Bayonne Barrel and Drum site. Access around the perimeter of the site was difficult due to highway construction along Route 1 and 9. The best view was obtained along the shoulder of Route 1 and 9. The storage yard in the rear of the property appeared relatively neat, including the rows of stacked drums. The plastic cover over the ash pile appeared to be in shabby condition leaving the pile partially uncovered. Several photos were taken around the facility and will be included in the PA package.

EG:mz

Ref. CC-1